PCG-N505VE/N505VX (UC)

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PCG-N505VE/N505VX (UC)

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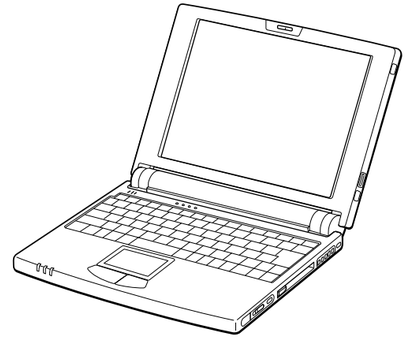
SONY

PCG-N505VE/N505VX

SERVICE MANUAL

US Model
Canadian Model



i™ S400

9-872-009-11

Notebook Computer

SONY®

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Caution Markings for Lithium/Ion Battery - The following or similar texts shall be provided on battery pack of equipment or in both the operating and the service instructions.

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

CAUTION: The battery pack used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 100°C (212°F) or incinerate.
Dispose of used battery promptly.
Keep away from children.

Service and Inspection Precautions

1. Obey precautionary markings and instructions

Labels and stamps on the cabinet, chassis, and components identify areas requiring special precautions. Be sure to observe these precautions, as well as all precautions listed in the operating manual and other associated documents.

2. Use designated parts only

The set's components possess important safety characteristics, such as noncombustibility and the ability to tolerate large voltages. Be sure that replacement parts possess the same safety characteristics as the originals. Also remember that the ⚠ mark, which appears in circuit diagrams and parts lists, denotes components that have particularly important safety functions; be extra sure to use only the designated components.

3. Always follow the original design when mounting parts and routing wires

The original layout includes various safety features, such as inclusion of insulating materials (tubes and tape) and the mounting of parts above the printer board. In addition, internal wiring has been routed and clamped so as to keep it away from hot or high-voltage parts. When mounting parts or routing wires, therefore, be sure to duplicate the original layout.

4. Inspect after completing service

After servicing, inspect to make sure that all screws, components, and wiring have been returned to their original condition. Also check the area around the repair location to ensure that repair work has caused no damage, and confirm safety.

5. When replacing chip components...

Never reuse components. Also remember that the negative side of tantalum capacitors is easily damaged by heat.

6. When handling flexible print boards...

- The temperature of the soldering-iron tip should be about 270C.
- Do not apply the tip more than three times to the same pattern.
- Handle patterns with care; never apply force.

Caution: Remember that hard disk drives are easily damaged by vibration. Always handle with care.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

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- Abbreviations
  UC : US model / Canadian model

1-1 VAIO 505 SuperSlim Notebook User Guide

SONY

VAIO® 505 SuperSlim Notebook User Guide

PCG-N505VE/PCG-N505VX

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Owner's Record

The model number and serial number are located on the bottom of your Sony VAIO® 505 SuperSlim Notebook. Record the serial number in the space provided here. Refer to the model and serial number when you call your Sony Service Center.

Model Number: PCG-N505VX/ PCG-N505VE

Serial Number:_____

Safety Information

WARNING

- To prevent fire or shock hazard, do not expose your notebook computer to rain or moisture.
- To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.
- Never install modem or telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch uninsulated telephone wire or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.
- Avoid using the modem during an electrical storm.
- Do not use the modem or a telephone to report a gas leak in the vicinity of the leak.
- A socket outlet should be as close as possible to the unit and easily accessible.

! **For CD-ROM: The use of optical instruments with the CD-ROM drive will increase eye hazard.**

! **For DVD-ROM: As the laser beam used in the DVD-ROM drive is harmful to the eyes, do not attempt to disassemble the drive cabinet. Refer servicing to qualified personnel only.**

AVERTISSEMENT

- Pour prévenir tout risque d'incendie ou d'électrocution, garder cet appareil à l'abri de la pluie et de l'humidité.
- Pour prévenir tout risque d'électrocution, ne pas ouvir le châssis de cet appareil et ne confier son entretien qu'à une personne qualifiée.
- L'appareil doit être le plus près possible d'une prise murale pour en faciliter l'accès.

Regulatory Information.

Declaration of Conformity

Trade Name: SONY

Model No: PCG-N505VE/ PCG-N505VX

Responsible Party:
Sony Electronics Inc.

Address:
1 Sony Drive
Park Ridge, NJ 07656

Telephone No.: 201-930-6970

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Only peripherals (computer input/output devices, terminals, printers, etc.) that comply with FCC Class B limits may be attached to this computer product. Operation with non-compliant peripherals is likely to result in interference to radio and television reception.

All cables used to connect peripherals must be shielded and grounded. Operation with cables, connected to peripherals, that are not shielded and grounded, may result in interference to radio and television reception.

FCC Part 68

This equipment complies with Part 68 of the FCC rules. On the bottom of this equipment is a label that contains, among other information, the FCC equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

This modem uses the USOC RJ-11 telephone jack.

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

If the terminal equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operations of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please contact 1-888-4SONYPC (1-888-476-6972), or write to the Sony Customer Information Center, One Sony Drive, Park Ridge, NJ 07656 for repair and / or warranty information. If the trouble is causing harm to the telephone network, the telephone company may request that you remove the equipment from the network until the problem is resolved.

Repair of this equipment should be made only by a Sony Service Center or Sony authorized agent. For the Sony Service Center nearest you, call 1-888-4SONYPC (1-888-476-6972).

This equipment cannot be used on public coin service provided by the telephone company. Connection to Party Line Service is subject to state and possible provincial tariffs. (Contact the state or provincial utility service commission, public service commission, or corporation commission for information.)

Telephone Consumer Protection Act of 1991 (United States)

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone facsimile machine unless such message clearly contains, in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business, other entity, or individual sending the message, and the telephone number of the sending machine or such business, other entity, or individual.

In order to program this information into your facsimile machine, see your fax software documentation.

Telephone Consumer Guidelines (Canada)

Please refer to your telephone directory under 'Privacy Issues' and / or 'Terms of Service.' For more detailed information, please contact:

CRTC
Terrasses de la Chaudiére, Tour centrale
1 promenade du Portage, 5 étage Hull PQ K1A 0N2.

This Class B digital apparatus complies with Canadian ICES-003.

Cet àppareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

DISPOSAL OF LITHIUM ION BATTERY

You can return your unwanted lithium ion batteries to your nearest Sony Service Center or Factory Service Center.

In some areas the disposal of lithium ion batteries in household or business trash may be prohibited.

For the Sony Service Center nearest you call 1-888-476-6972 in the United States or 1-800-961-7669 in Canada.

! Do not handle damaged or leaking lithium ion batteries.

! Ne pas manipuler les batteries au lithium-ion qui fuient ou sont endommagées.

! **Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.**

! **Une batterie non conforme présente un danger d'explosion. La remplacer seulement par une batterie identique ou de type équivalent recommandé par le fabricant. Évacuer les batteries usées selon les directives du fabricant.**

! **The battery pack used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 212°F (100°C) or incinerate. Dispose of used battery promptly. Keep away from children.**

! **La manutention incorrecte du module de batterie de cet appareil présente un risque d'incendie ou de brûlures chimiques. Ne pas démonter, incinérer ou exposer à une température de plus de 100°C. Évacuer promptement la batterie usée. Garder hors de portée des enfants.**

INDUSTRY CANADA NOTICE

NOTICE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection.

The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Equipment malfunctions or any repairs or alterations made by the user to this equipment may give the telecommunications company cause to request that the user disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

NOTICE: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5. The Ringer Equivalence Number for this equipment is 0.3.

AVIS DE L'INDUSTRIE CANADA

AVIS: L'étiquette d'Industrie Canada identifie le matériel homologué.

Cette étiquette certifie que le matériel est conforme aux normes de protection, d'exploitation et de sécurité des réseaux de télécommunications, comme le prescrivent les documents concernant les exigences techniques relatives au matériel terminal. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêche pas la dégradation du service dans certaines situations.

Les réparations de matériel homologué doivent être coordonnées par un représentant désigné par le fournisseur. L'entreprise de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

Avertissement: L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas.

AVIS: L'indice d'équivalence de la sonnerie (IES) assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface.

La terminaison d'une interface téléphonique peut consister en une combination de quelques dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5.

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Welcome

Congratulations on your purchase of the Sony VAIO® 505 SuperSlim Notebook. Sony has combined leading-edge technology in audio, video computing and communications to provide you with state-of-the-art personal computing.

Features

For a complete description of the specifications of your VAIO 505 SuperSlim Notebook, see page 76.

- **Exceptional performance**: Your notebook includes a fast Intel® Celeron™ or Intel® Pentium® II processor* and a V.90 compatible modem.†
- **Portability:** The high-capacity lithium-ion battery provides hours of use without AC power.
- **Sony audio and video quality:** High-quality MPEG1 video, which supports full-screen display (10.4" Poly-Si TFT)) and enables you to take advantage of today's advanced multimedia applications, games, and entertainment software.
- **Windows® 98 Second Edition:** Your system includes the latest operating system from Microsoft.
- **Communications:** Access popular online services, send e-mail, browse the Internet, and use fax features.

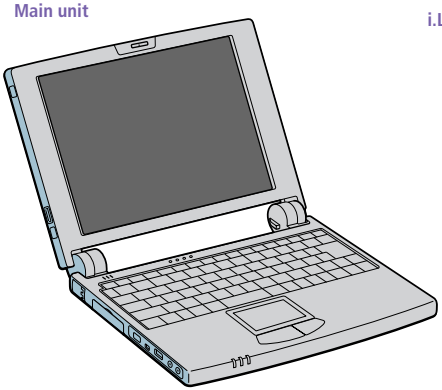
* Model PCG-N505VE has a Celeron processor, and model PCG-N505VX has a Pentium II processor.

† Actual upload and download speeds may vary due to line conditions, ISP support, and government regulations.

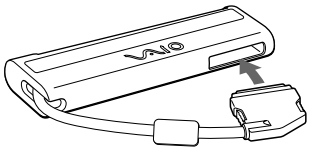
Unpacking Your Notebook Computer

Remove the following hardware items from the box:

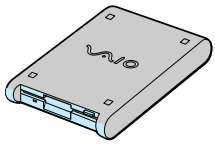
Main unit



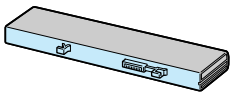
i.LINK port replicator (model PCG-N505VX only)



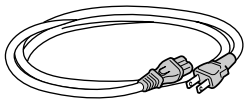
USB floppy disk drive



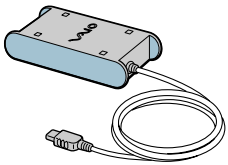
Rechargeable battery pack*



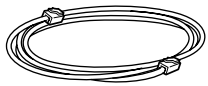
Power cord



AC adapter



Phone cable



Manuals

- The *VAIO® 505 SuperSlim™ Notebook User Guide* (this manual) contains information on how to get the most from you computer, find help and solve common problems. It also includes product specifications.
- *Read Me First* contains Frequently Asked Questions, the most up-to-date information on using your computer and software information.
- The *Consumer Information Guide* contains ergonomic considerations and your computer's limited warranty statement.
- *The Microsoft® Windows® 98 Second Edition Getting Started* manual explains how to use the basic feature of the Windows operating system.

* PCGA-BP51 (shown here) is supplied with PCG-N505VE. PCGA-BP52 (not shown) is supplied with PCG-N505VX.

Software CDs

- ❑ Microsoft® Works Suite CDs

Recovery CDs

- ❑ System Recovery CD(s)
- ❑ Application Recovery CD(s)

> ✍ To use these recovery CDs, you need to purchase the PCGA-CD5 or PCGA-CD51 CD-ROM drive.

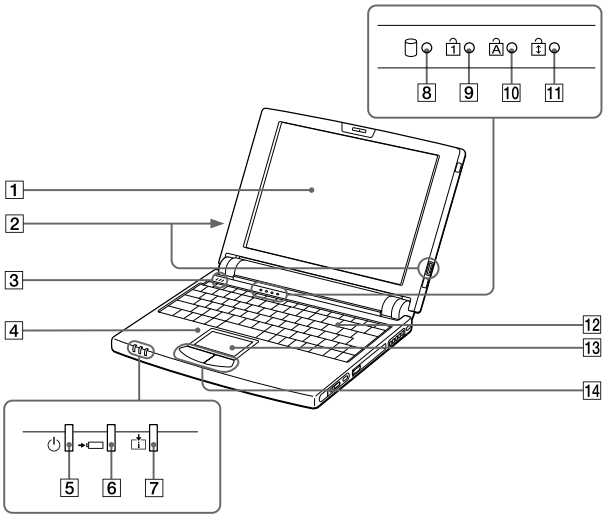
Other

- ❑ Setting up your VAIO® 505 SuperSlim™ Notebook (poster)
- ❑ Packet containing special product offers

Locating Controls and Connectors

This section describes how to start using your computer and how to use your computer's internal and external devices, such as the touchpad and floppy disk drive.

Front



1 LCD screen (pages 21, 58)

2 External speaker connectors (page 21)

3 Microphone

4 Speaker (pages 21, 60)

5 Power indicator (pages 12, 20)

6 Battery indicator (pages 10, 20)

7 Information indicator (page 20)

8 Hard disk drive indicator (page 20)

9 Num Lock indicator (page 20)

10 Caps Lock indicator (page 20)

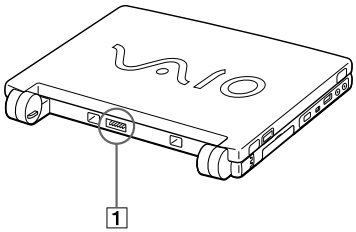
11 Scroll Lock indicator (page 20)

12 Keyboard (page 16)

13 Touchpad (page 22)

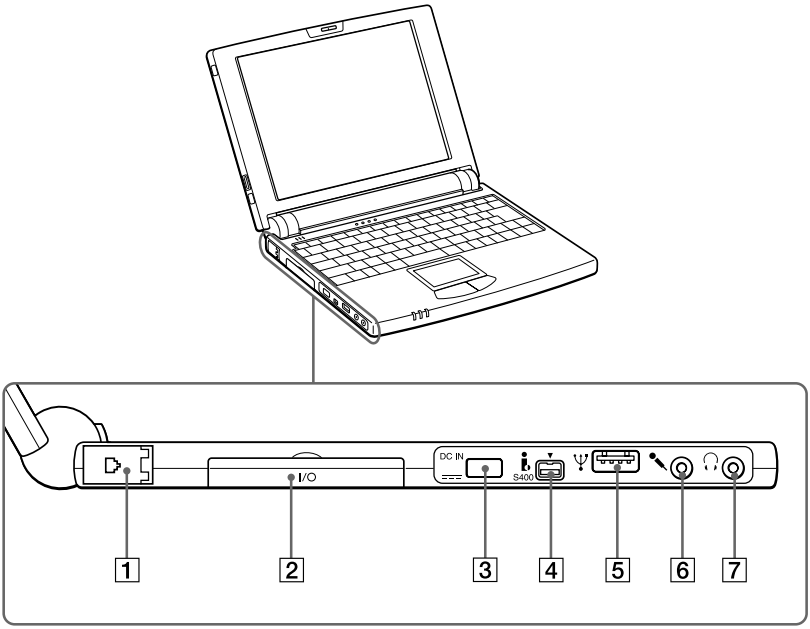
14 Left/right button (page 22)

Back



1 Battery connector (page 9)

Left



1 Phone line jack (page 36)

2 I/O i.LINK® port replicator connector (page 37)

3 DC In connector (page 8)

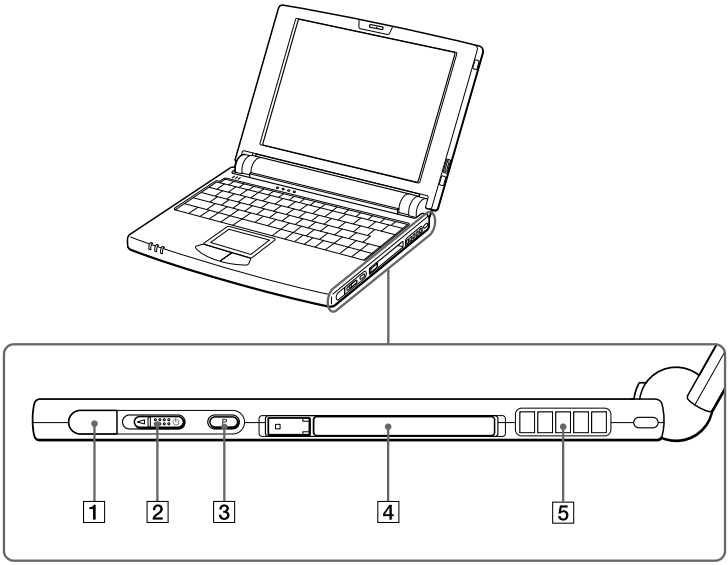
4 S400 i.LINK (IEEE-1394) (page 48)

5 USB connector (page 50)

6 Microphone connector

7 Headphone connector

Right



1 Infrared port (page 30)

2 Power Switch (page 12)

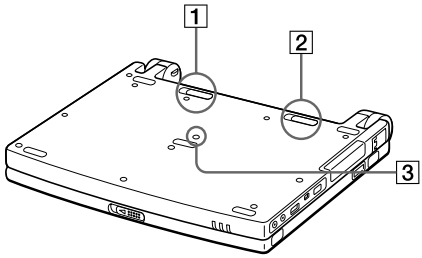
3 Programmable Power Key (see the online document *Customizing Your VAIO® 505 SuperSlim™* Notebook)

4 PC card slot (page 26)

5 Fan*

* Do not block air flow through the fan unit. Blocking this unit may result in a system malfunction.

Bottom



1 Battery release lever (page 11)

2 Battery lock lever (pages 9, 11)

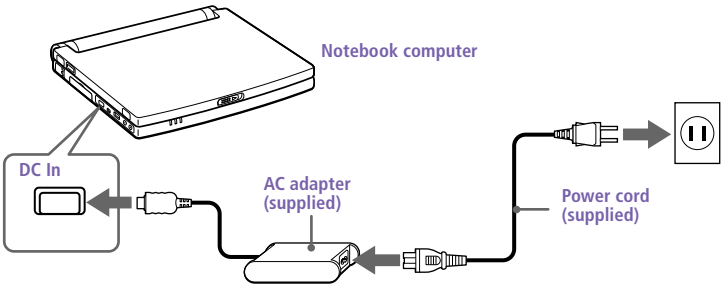
3 Reset switch

Connecting a Power Source

You can use either AC power or a rechargeable battery pack as a power source.

Using the AC Adapter

1. Plug the cable attached to the AC adapter into the DC In connector on the computer.
2. Plug one end of the power cord into the AC adapter.
3. Plug the other end of the power cord into an AC outlet.



Using Battery Power

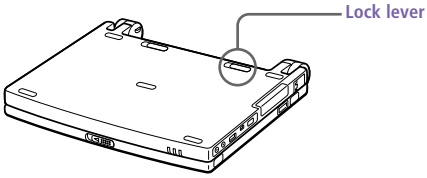
PCG-N505VE comes with the PCGA-BP51 battery pack. You can use a battery pack as a source of power. The PCGA-BP52 battery pack that comes with your computer (model PCG-N505VX only) is not fully charged at the time of purchase. Follow the steps below to insert and charge the battery pack.

You can also purchase the high-capacity PCGA-BP52 battery pack as a separate option.

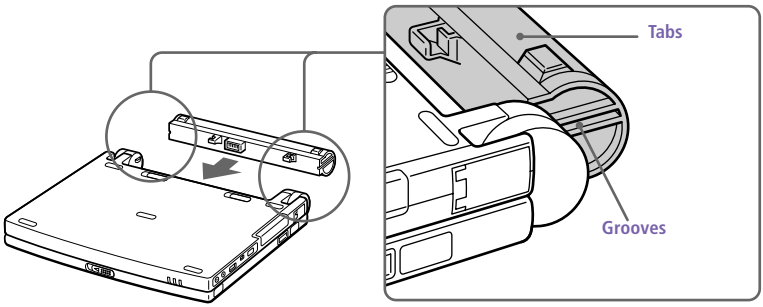
See "Using Power Saving Modes" on page 32 for power management information.

To insert the battery pack

1 Move the lock lever on the bottom of the computer to the UNLOCK position.



2 Align the grooves and tabs on the battery with the tabs and notches on the back of the computer, and then slide the battery toward the computer until it clicks into place.



3 Slide the lock lever into the LOCK position to secure the battery on the computer.

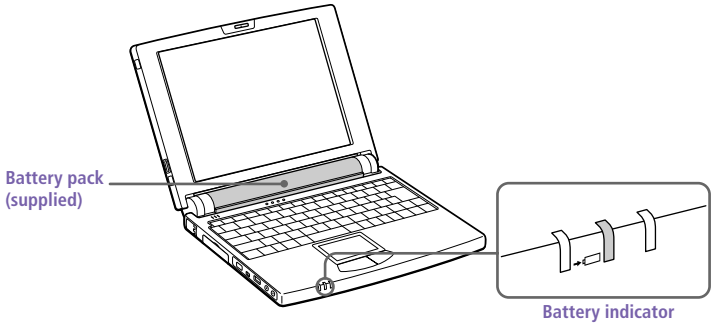
To charge the battery pack

1 Connect the AC adapter to the computer.

2 Insert the battery pack.

The computer automatically charges the battery (the battery indicator light flashes in a double blink pattern as the battery charges). When the battery is 85% full, the battery indicator light turns off. This process takes approximately one and one half hours. To charge the battery completely, continue charging for an additional hour.

The battery indicator light on the front of the computer indicates the status of the battery pack.



Battery Indicator Light Status	*Meaning*
On	The computer is using battery power.
Single blink	The battery is running out of power.
Double blink	The battery is charging.
Off	The computer is using AC power.

Both the battery and power indicators blink when the battery is running out of power.

Keep the battery pack in the computer while it is directly connected to AC power. The battery pack continues to charge while you are using the computer.

If your battery level falls to less than 10 percent, you should either attach the AC adapter to recharge the battery or shut down your computer and insert a fully charged battery.

You can extend battery life by changing the power management modes in the PowerPanel utility. See "Using Power Saving Modes" on page 32.

You can also charge the battery with the battery charger PCGA-BC5 (not supplied). See the manual that comes with the battery charger for more information of its use.

The battery pack supplied with your computer is a lithium ion battery and can be recharged at any time. Charging a partially discharged battery does not affect battery life.

The battery indicator light is on while you use the battery pack as a power source. When battery life is nearly depleted, the battery indicator starts flashing.

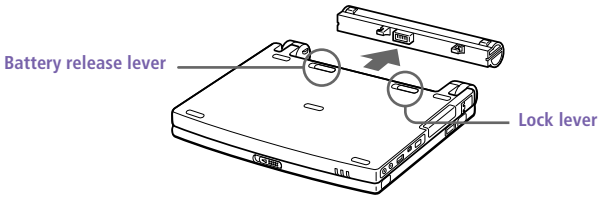
For some software applications and some peripheral devices, your computer may not enter System Hibernation mode when the battery life is low. To avoid loss of data when using battery power, you should save your data frequently and manually activate a power management mode, such as System Suspend or System Hibernation.

To remove the battery pack

1 Turn off the computer and close the cover.

2 Slide the lock lever to the UNLOCK position.

3 Slide the release lever to the UNLOCK position and slide the battery away from the computer.

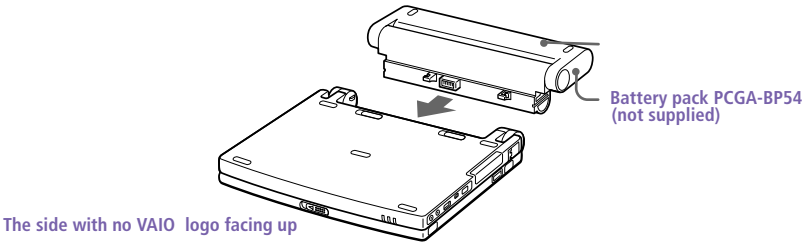


You may lose data if you remove the battery pack while the computer is on and not connected to the AC adapter or if you remove the battery while the computer is in System Suspend mode.

You can remove the battery pack without turning the off the computer when your computer is connected to the AC adapter. Before inserting or removing the battery pack, close the cover.

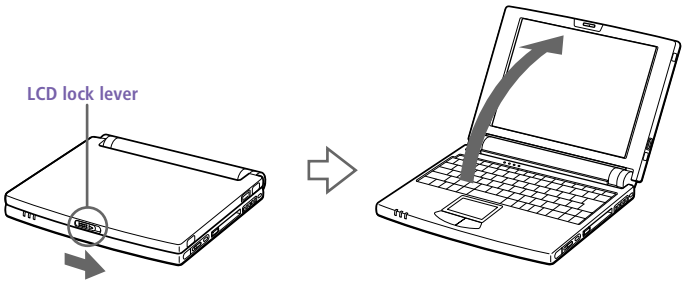
To insert the optional high-capacity battery pack (PCGA-BP54)

Insert the battery pack with the VAIO logo side facing down. See the manual that came with the battery pack for more information.

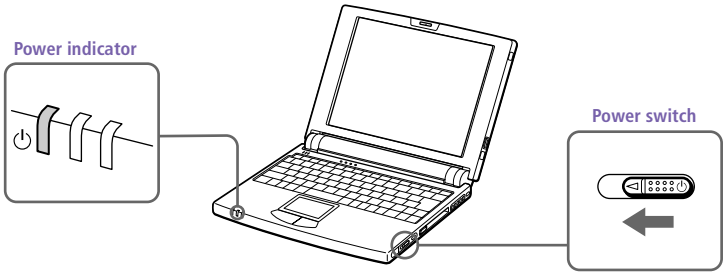


Starting Your Computer

1 Slide the LCD lock lever in the direction of the arrow, and lift the cover.



2 Slide the power switch on the right side toward the front of the computer until the green power indicator light turns on.



If you hold the power switch in the On position for more than four seconds, the computer turns off.

3 If necessary, adjust the brightness controls for the LCD display. To decrease the brightness, press Fn+F5 and then the down or left arrow key. To increase the brightness, press Fn+F5 and then the up or right arrow key.

Shutting Down Your Computer

! **To avoid potential loss of data, follow these steps to shut down your computer.**

1 Click the Start button on the Windows® 98 taskbar.

2 Click Shut Down at the bottom of the Start menu to display the Shut Down Windows dialog box.

3 Select Shut down.

4 Click OK.

Respond to any prompts warning you to save documents.

5 Wait for your computer to turn off automatically. The power indicator turns off.

6 Turn off any peripherals connected to your computer.

If you are unable to shut down your computer using the steps described above, press the Ctrl+Alt+Delete keys at the same time to restart the computer. If you are unable to restart the computer in this way, you can slide the power switch forward and hold for four seconds. This operation may result in data loss.

During a period of inactivity, you can conserve battery life by using System Suspend mode. See "Controlling Power Management" in the online document *Customizing Your VAIO® N505 SuperSlim Pro™* Notebook.

Configuring Microsoft® Windows® 98 Second Edition

The first time you turn on your computer, you need to complete a few steps to configure the Windows operating system that is already installed on your computer.

You must configure Windows 98 before you can use the computer.

The on-screen instructions guide you through the configuration process. The following is an overview of the process.

1 Entering information:

- Enter your name.
- Read and accept the License Agreement.
- Enter the product ID number located on the Certificate of Authenticity on the cover of the Microsoft® Windows 98 *Getting Started* manual.

2 Windows 98 setup: Click the Finish button on the Windows 98 Setup Wizard screen.

3 Selecting your computer settings: If necessary, change the Time Zone, Date and Time on the Date/Time Properties screen.

4 Registering your computer: For details on the benefits of registration, see “Registering Your Computer” on page 15. You may sign up for Internet access with a Sony preferred Internet Service Provider.

Registering Your Computer

You can take advantage of Sony's commitment to quality customer support and receive the following benefits by registering your computer with Sony:

- **Sony Customer Support –** Talk to a Support Representative to troubleshoot problems you may be having with your computer.
- **Extended Limited Warranty –** Protect your investment. Extend your Warranty nine months for a total of 12 months from the original date of purchase when you register your computer.
- **Express service –** Provides convenient resolution of problems.

If you have not already registered, follow these steps to use your notebook computer's online registration service. You may sign up with a Sony preferred Internet Service Provider.

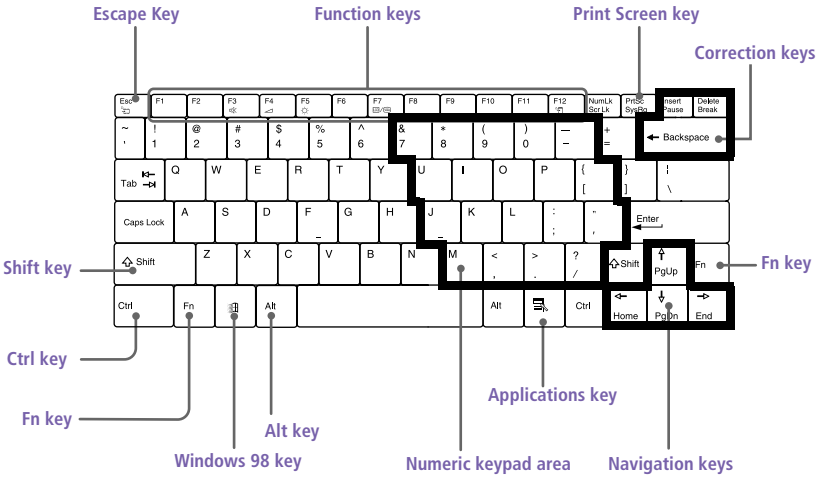
You must connect your phone line before using any online services, including the online registration service. See "Connecting a Phone Line" on page 36.

1. Click the Sony VAIO Registration icon on the VAIO desktop.
2. Enter the information requested on the first online registration form. Press the Tab key to move from box to box.
3. Click the Next button to advance to the next form.
4. Complete the remaining forms by clicking the Next button each time you complete a form.

The computer automatically transfers your registration information using your built-in modem and a toll-free telephone number.

Using the Keyboard

Your keyboard is very similar to a typewriter's, but the keyboard has additional keys that perform specific computer-related tasks.



Key	Description
Numeric keypad area	Contains the keys found on a typical calculator. Use the numeric keypad area to type numbers or to perform mathematical calculations such as addition and subtraction. Note that you must press the Num Lock key to activate the numeric keypad. (When you do so, the Num Lock light will be on.)
Navigation keys	Several keys are devoted to moving the cursor on the screen (the four arrow keys which also function as the Home, End, Page Up, and Page Down keys).
Correction keys	The Insert, Back Space, and Delete keys enable you to make corrections in your documents.
Function keys	The twelve function keys along the top of the keyboard are used to perform designated tasks. For example, in many applications, F1 is the Help key. The task associated with each function key may vary from one application to the next.

Key	*Description*
Escape key	The Esc (Escape) key is used to cancel commands
Print Screen key	The Print Screen key takes an electronic snapshot of the screen and places it in the Windows Clipboard. You can then paste the screen shot into a document and print it.
Operator keys	Several keys are always used with at least one other key: Ctrl, Alt, and Shift. When held down with another key, the Ctrl (Control) and Alt (Alternate) keys offer another way to give commands. For example, in many applications, instead of choosing the Save command from a menu, you can hold down Ctrl and press S (referred to as Ctrl+S). The Shift key operates the same way as on a typewriter; it is used to produce capital letters or special symbols such as @ and $.
Windows 98 key	The key with the Windows logo displays the Windows 98 Start menu; it is the equivalent of clicking the Start button on the task bar. See "Combinations and Functions with the Windows 98 Key" on page 18.
Fn key	The Fn key is used in combination with other keys to issue commands. The Fn keys at the left and right sides both work the same. See "Combinations and Functions with the Fn Key" on page 21.
Applications key	The Applications key displays a shortcut menu of context-sensitive choices; pressing this key is the equivalent of clicking the right mouse button.

Combinations and Functions with the Windows 98 Key

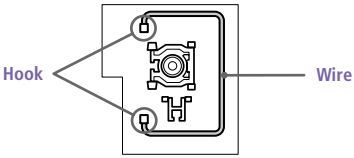
Combinations	Functions
+ F1	Displays Windows Help.
+ Tab	Switches the selected button on the taskbar.
+ E	Displays Windows Explorer.
+ F	Displays the Windows Find: All Files window to find a file or folder. This is the equivalent of selecting Find and then Files or Folders from the Start menu.
+ Ctrl + F	Displays the Windows Find: Computer window where you can locate other computers. This is the equivalent of selecting Find and then Computer from the Start menu.
+ M	Minimizes all displayed windows.
Shift + + M	Returns all minimized windows to their previous size.
+ R	Displays the Run window. This is the equivalent of selecting Run from the Start menu.

Replacing a key top

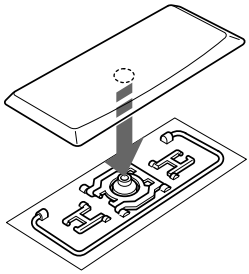
If the enter key or the space bar key comes off, replace the key top in the position shown below. If any other key top comes off, replace it in its original location and push it down until it clicks.

To replace a key top

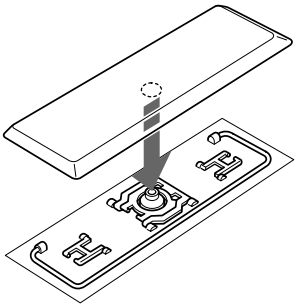
Remove the wire from the key top, then attach it to the hook on the unit. Align the center of the key top and press it from the top.



Enter Key



Space key

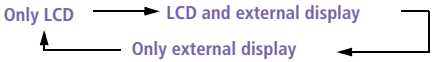


Indicators

Indicators	Functions
Power	Green light indicates the computer is turned on. Umber light indicates the computer is in System Idle mode. Umber flash indicatesthe computer is in System Suspend mode. Turns off when the computer is in System Hibernation mode or powered off.
Battery	Indicates the status of the battery attached at the rear of the computer.
Information	Turns on when the PPK Timer is set. Turns off when the PPK Timer is not set or the PPK Timer setting is inactive (such as when the computer's power is off or in System Hibernation mode).

Light	On	Off
Hard disk	Data is being read from or written to the hard drive. Do not enter System Suspend mode or turn off the computer when this indicator light is on.	The hard drive is not being accessed.
Num Lock	The number keys in the numeric keypad are active.	The character keys in the keypad area are active.
Caps Lock	The letters appear in uppercase as you type. The Shift key lowers the case of typed letters when Caps Lock is on.	Letters appear in lower case as you type (unless you hold down the Shift key).
Scroll Lock	The screen scrolls differently. (Exactly how it scrolls depends on the specific application. It has no effect in many applications.)	Information moves across the display normally.

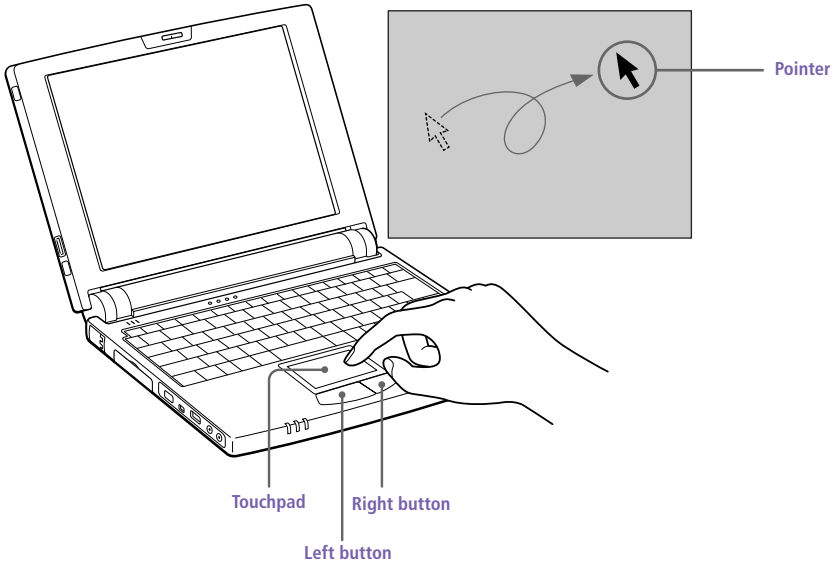
Combinations and Functions with the Fn Key

Combinations/ Feature	Functions
Fn+ (ESC) System Suspend	Puts the system into System Suspend mode, a power management state. To return the system to the active state, press any key or press the power switch on your computer.
Fn+ (F3) Speaker switch	Toggles the built-in speaker off and on.
Fn+ (F4) Speaker volume	Adjusts the built-in speaker or the external speakers volume. To increase volume, press Fn+F4, then ↑ or →. To decrease volume, press Fn+F4, then ↓ or ←.
Fn+ (F5) Brightness control	Adjusts the brightness of the LCD. To increase light intensity, press Fn+F5 and then ↑ or →. To decrease light intensity, press Fn+F5 and then ↓ or ←.
Fn+ LCD / VGA (F7) Switch to the external display	Toggles through the LCD, external display (connected to the Monitor connector on the port replicator) and both LCD and external display. 
Fn+ (F12) System Hibernation	Provides for the lowest level of power consumption. When you execute this command, the state of the system and state of the peripheral devices are written to the hard disk and the system power is turned off. To return the system to the original state, use the power switch to turn on power.
Fn+B Mega-Bass switch	Toggles the mega-bass function off and on. This feature is available with headphone only.
Fn+D Video standby	Darken the LCD in order to save power.
Fn+F Change the display size	Zooms the display size in or out when the display is set to less than maximum resolution.
Fn+S System Idle	Puts the system into System Idle mode, a power management state. To return the system to the active state, press any key.

Some functions are not available until Windows launches.

Using the Touchpad

The keyboard contains a cursor-pointing device called a touchpad. You can point to, select, drag, and scroll objects on the screen using the built-in touchpad.



Actions	*Descriptions*
Point	Slide one finger on the touchpad to place the pointer on an item or object.
Click	Press the left button once.
Double-click	Press the left button twice.
Right-click	Press the right button once. In many applications, this action displays a shortcut menu of context-sensitive choices.
Drag	Slide one finger while pressing the left button.
Scroll	Move your finger along the right edge of the touchpad to scroll vertically. Move your finger along the bottom edge to scroll horizontally. (The scroll function is available only with applications that support a touchpad scroll feature.)

See Mouse Help for information on touchpad features, such as clicking both buttons simultaneously, adjusting touchpad speed, Web Assist, Tap Off, and Easy Launcher functions. To access Mouse Help, press the Start button, select Settings, and then select Control Panel. Click the Mouse icon in the Control Panel and click the Help button.

Using Smart Pad

Smart Pad is an application that lets you create memos by writing on the touchpad using your finger.

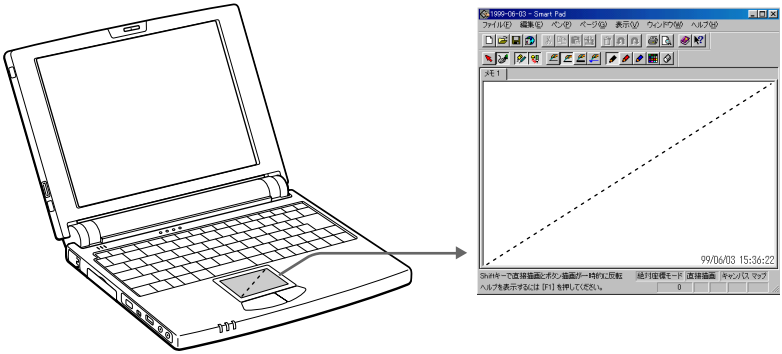
To use Smart Pad

1 Click the Start button on the Windows 98 taskbar.

2 Point to Programs, point to Smart Utilities, and then click Smart Pad.

3 Press the F10 key.

Smart Pad enters tablet mode. In this mode the touchpad corresponds with the Smart Pad screen. This means that what you write on the touchpad appears on the screen in the corresponding location. For example, when you write letters on the left corner of the touchpad, the letters appear on the left corner of the screen.



4 To write, move your finger slowly on the touchpad.

As you write, the letters you wrote on the touchpad appear on the screen.

5 To finish Smart Pad, press the F10 key to return to the normal mode (the relative coordinate mode) . Click File, then click Exit.

To learn more about Smart Pad, click Help on the Smart Pad screen to display the online help file.

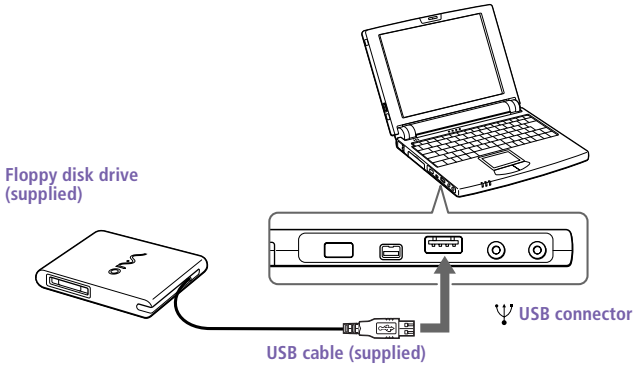
Using the Floppy Disk Drive

You can connect the floppy disk drive to the (USB) connector on your computer:

To connect the floppy disk drive

You do not need to shut down the computer before connecting or disconnecting the floppy disk drive.

Plug the USB cable into the (USB) connector on the computer and the other end into the USB connector on the floppy disk drive. The VAIO logo on the disk drive should be facing up.



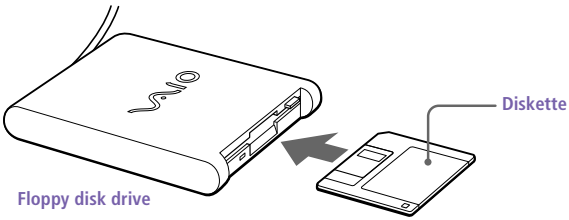
The supplied floppy disk drive should be used only with PCG-N505. You cannot use this floppy disk drive with another computer.

To use another USB device, such as a USB mouse, simultaneously, connect the supplied i.LINK port replicator (PCGA-UPR5) to your computer (page 37), then plug another USB device into the USB connector on the i.LINK port replicator.

To insert a diskette

1 Hold the diskette with the label side facing up.

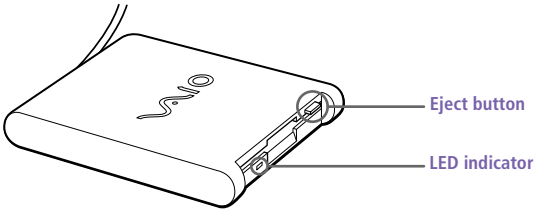
2 Gently push the diskette into the drive until it clicks into place.



To remove a diskette

❑ When you finish using the diskette, wait until the LED indicator turns off and then press the Eject button to remove the diskette.

Do not press the Eject button while the LED indicator is on, as this may damage the diskette.



If the diskette does not come out by pressing the Eject button, disconnect the floppy disk drive from the computer.

To remove the floppy disk drive

Wait until the LED indicator turns off, and then unplug the USB cable from the computer.

To carry the floppy disk drive

Fold the floppy disk cable into the compartment on the side of the floppy disk drive.

Using PC Cards

Your computer includes a PC card slot. PC cards allow you to connect portable external devices, such as a CD-ROM drive.

The PC card slot can accommodate one Type I or Type II PC card. This slot is compatible with 16 bit card and Card Bus. ZV (Zoomed Video) port is not available.

Some PC cards may require that you disable idle devices when using the PC card. You can use Sony Notebook Setup to disable devices. See "Displaying the Sony Notebook Setup Screen" in the online document *Customizing Your VAIO® 505 SuperSlim Notebook* for details.

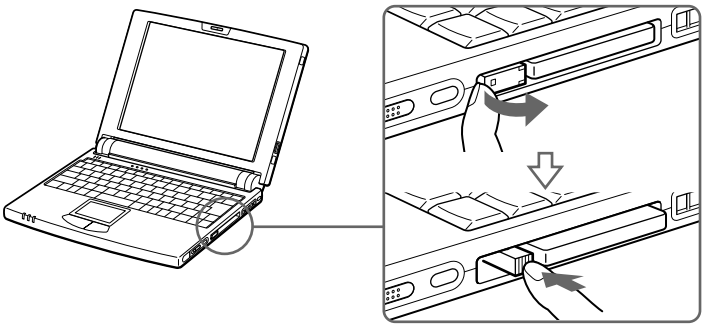
Be sure to use the most recent software driver provided by the PC card manufacturer.

If an "!" mark appears on the Device Manager tab in the System Properties dialog box, remove the software driver and then reinstall it.

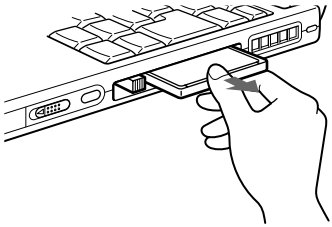
To insert a PC card

You do not need to shut down the computer before inserting or removing a PC card.

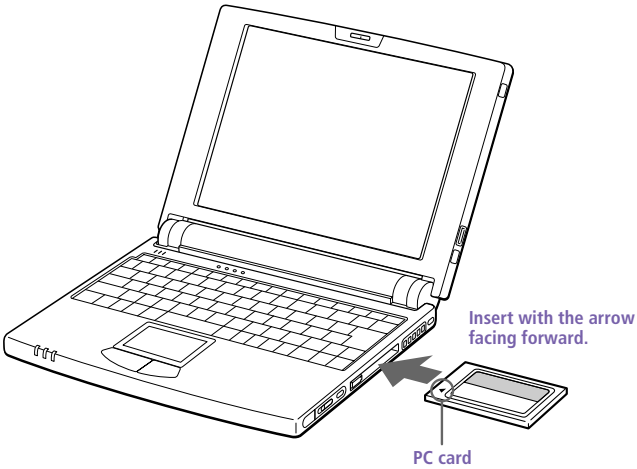
1 Pull the PC card release button up away from the computer and push it in towards the computer.



2 Remove the PC card slot protector.



3 Insert the PC card into the PC card slot, front label facing up. Gently push the card into the slot until the card is fixed into the connector. The release button comes out. Pull the release button, then push it down towards the slot.



Do not force a card into the slot, as this may damage the connector pins.

If you have difficulty inserting a card, check that you are inserting the card with the correct orientation.

While the card is inserted, your computer may not enter the System Hibernation power management mode. It may enter the System Suspend mode.

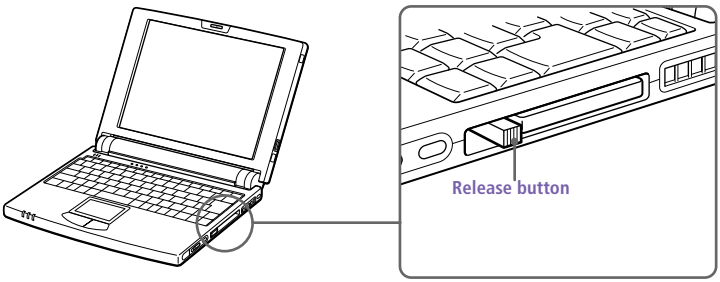
It is recommended that you remove the card when your computer enters the System Hibernation mode by pressing the Fn + F12 keys or by using the PowerPanel utility, and when it is set to enter the System Hibernation mode automatically while using a battery as the source of power.

See the manual that came with your PC card for more information on its use.

To remove a PC card

Follow the steps below when you remove the PC card while your computer is on. If the card is not removed properly, your system may not work well. When your computer is off, skip steps 1 to 5.

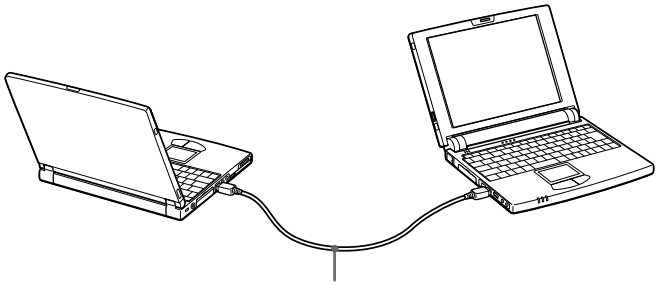
1. Click the Start button on the Windows 98 taskbar.
2. Point to Settings and click Control Panel.
3. Double-click PC card.
4. From the list that displays, click the PC card you want to remove, then click the Stop button.
5. Click OK when "You may safely remove the device" appears.
6. Press the PC card release button.
7. Grasp the card and pull it out.



8. Insert the PC card slot protector into the empty slot.

Using Smart Connect

The pre-installed Smart Connect software allows you to use an i.LINK cable (not supplied) to connect your VAIO 505 SuperSlim notebook to another VAIO computer that also has Smart Connect. You can then use one computer to copy, delete, and edit files on the other computer. You can also print from a printer attached to either computer. See the Smart Connect online help for more information.



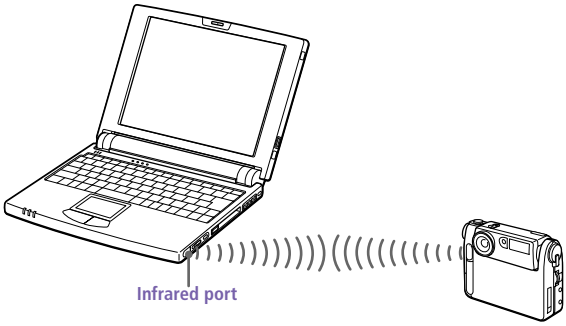
i.LINK cables compatible with your VAIO 505 SuperSlim notebook include cables with the following part numbers: VMC-IL4415 (a 1.5 meter cable with a 4-pin connector at each end), VMC-IL4435 (a 3.5 meter cable with a 4-pin connector at each end), VMC-IL4615 (a 1.5 meter cable with a 4-pin connector at one end and a 6-pin connector at the other), and VMC-IL4635 (a 3.5 meter cable with a 4-pin connector at one end and a 6-pin connector at the other).

Using Infrared Communication Devices

Your computer includes an infrared port, located on the right side of the computer. You can use this port to communicate with other infrared-equipped devices with compatible protocols, such as a digital still camera or other computers.

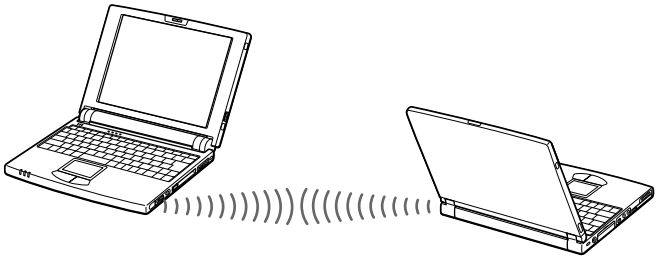
To use infrared communication with a digital still camera

Align the infrared ports on the computer and the digital camera so that they are in a direct line.



To use infrared communication with another computer

Align the infrared ports on the two computers so that they are in a direct line.



Infrared communication capability can be turned on and off. By default, it is not enabled when your system is shipped. To enable infrared use, click the Infrared icon in the Windows Control Panel, and select the Enable infrared communication checkbox on the Options tab.

You can disable infrared communication when you are not using it to conserve battery life.

Use the Infrared icon in the Windows Control Panel to enable and disable infrared communication. Do not use the icon in the taskbar.

Check the Status tag of the Infrared Monitor in the Windows Control Panel to determine if the infrared device is detected.

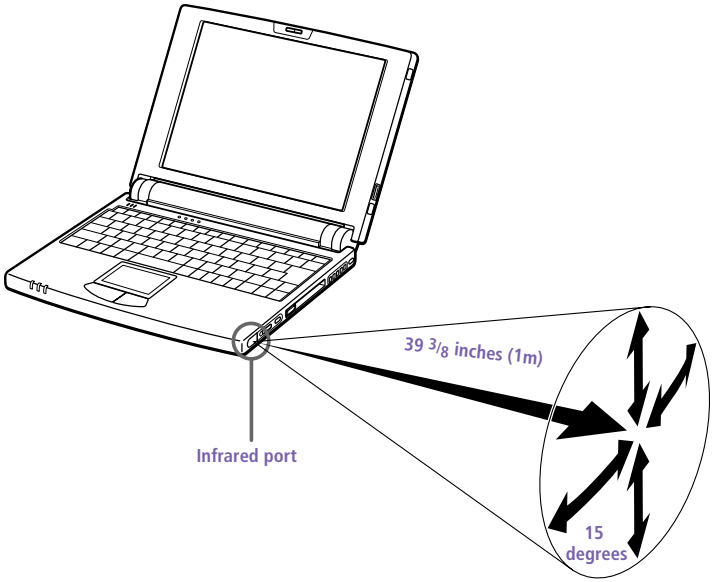
If the two devices are too far apart or too close together, data transfer may be interrupted or there may be noise in the transmission.

Do not cover the infrared ports with your hand or any other objects.

Avoid direct sunlight, fluorescent light, or flashing incandescent light near the infrared ports.

See the manual that came with your digital still camera or other infrared communication device for more information on installation and use.

The active area of infrared transmission extends about 39 $^{3}/_{8}$ inches (1m) with a radius of 15 degrees.



Using Power Saving Modes

When you use a battery as the source of power for your computer, you can take advantage of power management settings to conserve battery life. In addition to the normal operating mode, which allows you to turn off specific devices, your computer has three distinct power saving modes: System Idle, System Suspend, and System Hibernation. When using battery power, you should be aware that the computer automatically enters System Hibernation mode when the remaining battery charge drops below 5%, regardless of the power management setting you select.

If your battery level falls to less than 10%, you should either attach the AC adapter to recharge the battery or shut down your computer and insert a fully charged battery.

Normal Mode

This is the normal state of your computer when it is in use. The green power indicator light is on in this mode. To save power, you can turn off a specific device such as the LCD or the hard disk.

For details, see "Controlling Power Management" in the online document *Customizing Your VAIO® 505 SuperSlim Notebook*.

System Idle Mode

This mode is convenient if you do not need to use your computer for a brief period. The hard disk and video display enter a low power state, and the CPU clock and processor stop. The power indicator light is tan in this mode.

To activate System Idle mode

Press Fn+S. You can also use the PowerPanel utility to enter System Idle mode.

To return to normal mode

Press any key.

System Suspend Mode

The computer saves the current state of the system in RAM and switches off power to the CPU. The tan power indicator light flashes in this mode.

To activate System Suspend mode

Press Fn+Esc. You can also use the PowerPanel utility to enter System Suspend mode.

To return to normal mode

Press any key.

System Hibernation Mode

The state of the system is saved on the hard drive and power is turned off. The power indicator light is off in this mode.

To activate System Hibernation mode

Press Fn+F12. You can also use the PowerPanel utility to enter System Hibernation mode.

To return to normal mode

Turn on the computer by sliding the power switch forward. The computer returns to its previous state.

> When returning from System Hibernation mode, the system status stored on the hard disk is erased and the computer starts normally if you slide the power switch forward and hold for more than four seconds.

- Time to return to normal mode:

  System Idle requires less time than System Suspend, and System Suspend requires less time than System Hibernation.

- Power consumption:

  System Idle uses more power than System Suspend, and System Suspend uses more power than System Hibernation.

Connecting Peripheral Devices

You can add functionality to your computer by connecting any of these peripherals:

- Phone line (page 36)
- Port replicator (page 37)
  - Printer (page 39)
  - External display (page 41)
  - Desktop computer or serial device (page 43)
- CD-ROM drive (page 45)
- i.LINK device (page 48)
- Universal Serial Bus (USB) device (page 50)
- External display (page 51)
- External speakers (page 53)

Turn off the computer before connecting peripherals. In normal use, you should turn on the peripherals before turning on the computer. You can connect USB devices while the computer is on.

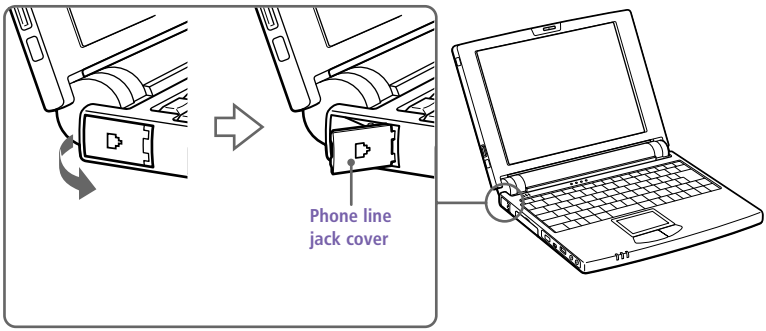
Connect the AC adapter only after connecting all cables.

Connecting a Phone Line

You need to connect a phone line to take advantage of online services, the Internet, and Sony Customer Support.

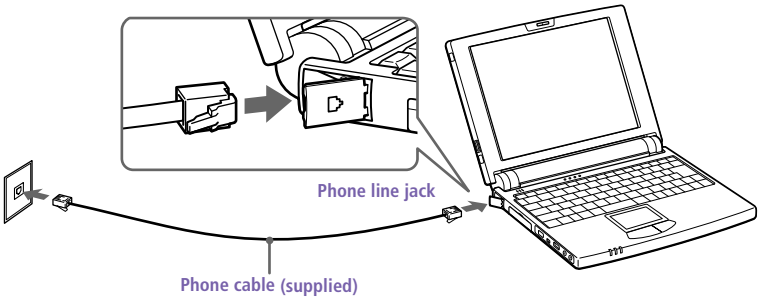
In order to register your Sony VAIO 505 SuperSlim notebook, register your software online, and use Sony Customer Support, you must connect to a phone line. Also, you must register your computer to receive the extended warranty.

1 Open the phone line jack cover. The cover opens only to a 45 degree angle.



2 Plug one end of the phone cable into the jack on the inside of the phone line jack cover. Make sure you insert the phone cable from the rear of the computer and that the modular jack clicks into place.

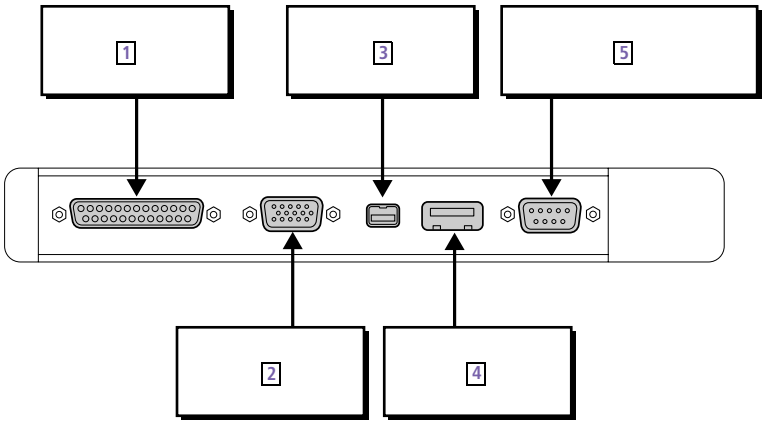
3 Plug the other end into the wall jack.



Your computer does not work with party lines, cannot be connected to a coin-operated telephone, and may not work with multiple phone lines or a private branch exchange (PBX). Some of these connections might result in excess electrical current and could cause a malfunction in the internal modem.

Connecting the i.LINK Port Replicator

You can use the PCGA-UPR5 i.LINK port replicator (supplied with PCG-N505VX only) to connect peripheral devices such as a printer or external display. The port replicator has five ports, including an i.LINK port.



1 Printer (page 39)

2 External Display (page 41)

3 i.LINK device (page 48)

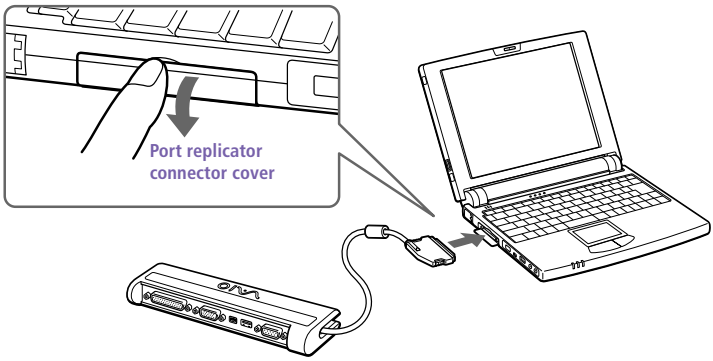
4 USB device (page 50)

5 Serial (page 43)

To attach the port replicator

1 Turn off the computer.

2 Open the port replicator connector cover on the left side of the computer.

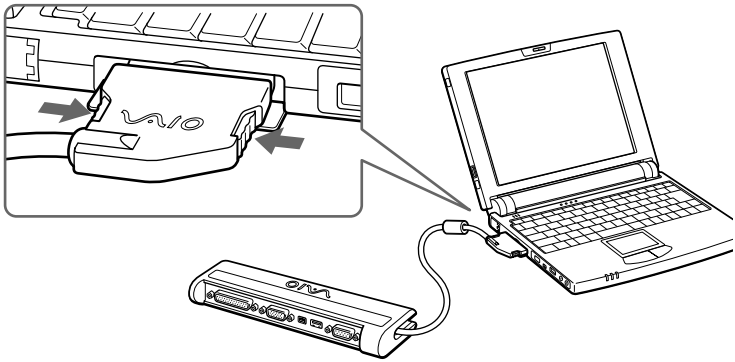


3 Plug the port replicator cable into the port replicator connector on the computer.

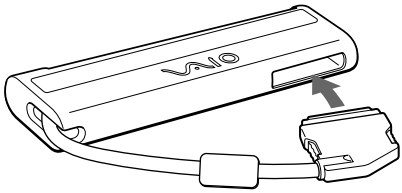
To remove the port replicator

1 Turn off the computer.

2 Press both sides of the port replicator cable connector and unplug the cable from the computer.



3 Fold the port replicator cable into the compartment on the side of the port replicator.



You cannot use the optional PCGA-PR5 port replicator with your computer.

Connecting a Printer

You can use the port replicator to connect a Windows 98-compatible printer or other parallel port device to your computer.

To connect a printer

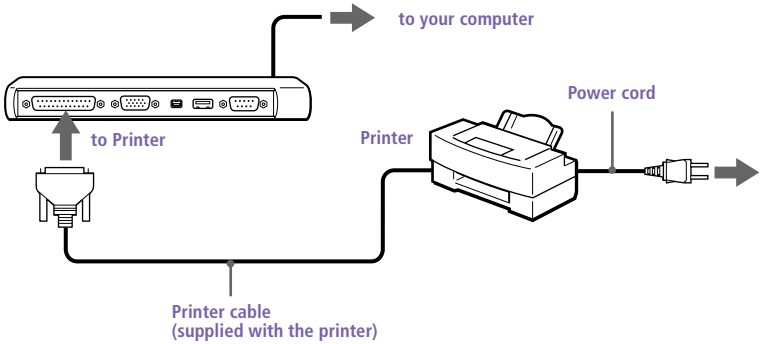
❑ Use the symbol to locate the Printer connector on the port replicator. Plug the printer cable (supplied with the printer) into this connector.

Turn off your computer and the printer, unplug the AC adapter and the power cord before connecting the printer.

Connect the power cord after connecting all other cables.

Turn on the peripherals, then turn on your computer.

If you connect the printer which is not compatible with the Windows 98, your computer and the printer may not work properly.



See the manual that came with your printer for more information on installation and use.

Before using the printer, you may need to change the Printer setting in the Sony Notebook Setup software. See "Displaying the Sony Notebook Setup Screen" in the online document *Customizing Your VAIO® 505 SuperSlim Notebook*.

Connecting an External Display

You can use the port replicator to connect an external display to your notebook computer. For example, you can use the computer with any of the following:

- Computer display (monitor) (page 41)
- Projector (page 42)

Turn off your computer and the peripherals; unplug the AC adapter and the power cord before connecting the external display.

Connect the power cord after connecting all of the other cables.

Turn on the peripherals, then turn on your computer.

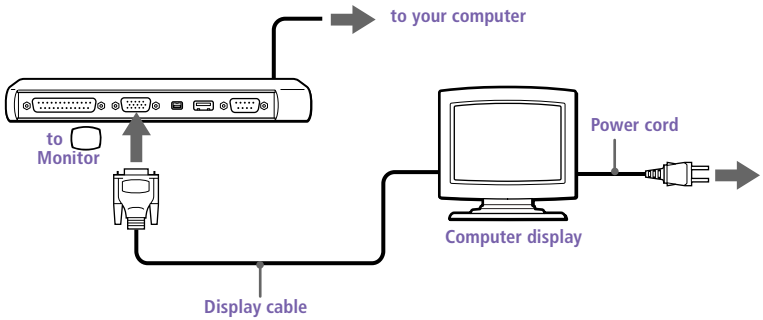
Some Computer displays or projectors may not be used as a monitor with the LCD on your computer display at the same time.

You can toggle the display mode between the LCD on your computer and the external display. See "To select a display" on page 42 or "Combinations and Functions with the Fn Key" on page 21.

The optional display adapter PCGA-DA5 allows you to connect a display directly to the port replicator connector, eliminating the need for the port replicator. See "Connecting an External Display" on page 41.

To connect a computer display

- Use the ▭ symbol on the port replicator to locate the Monitor connector. Plug the display cable into this connector.
- If necessary, plug one end of the display power cord into the display, and the other end into an AC outlet.



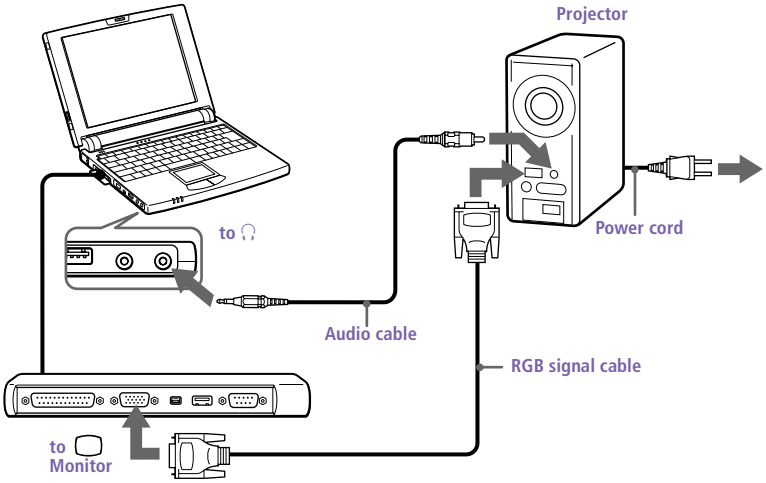
See the manual that came with your computer display for more information on installation and use.

To connect a projector

You can use a projector as an external display, such as the Sony LCD Projector.

1 Use the ▭ symbol to locate the Monitor connector. Plug the RGB signal cable into this connector.

2 Use the 🎧 symbol to locate the Headphone connector. Plug the audio cable into this connector.



✍ See the manual that came with your projector for more information on installation and use.

To select a display

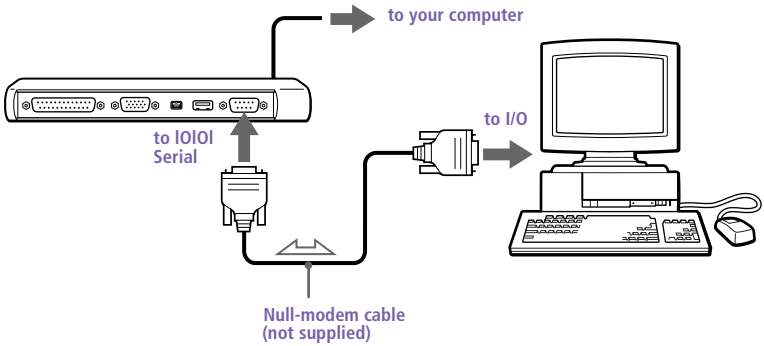
When you connect an external display to the monitor connector, you can press Fn+F7 to toggle the output between the Liquid Crystal Display (LCD), the external monitor, or both devices. See "Selecting the Display Mode" in the online document *Customizing Your VAIO® 505 SuperSlim Notebook* for more information.

Connecting a Desktop Computer or Serial Device

You can use the port replicator to connect your notebook computer to another computer, or to connect other peripherals, such as the Sony Digital Still Camera.

To connect a desktop computer

❑ Use the IOIOI symbol to locate the Serial connector. Plug a null-modem cable (not supplied) into this port on the port replicator and into the serial port on the desktop computer.



Turn off your computer and the peripherals, unplug the AC adapter and the power cord before connecting the null-modem cable.

Connect the power cord after connecting all other cables.

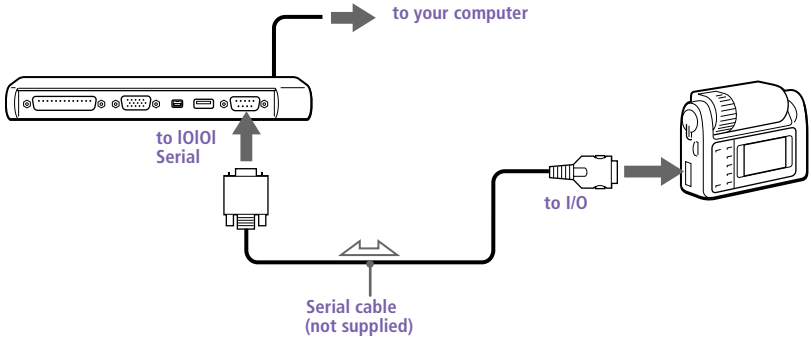
Turn on the peripherals, then turn on your computer.

Be sure to use a null modem cable, which is a specially-designed crossed wire serial cable that allows two computers to be connected to each other. You cannot transfer data if you connect the straight cable.

To transfer data between computers, the software which supports the connection by serial cable should be installed on both your computer and the computer to which you want to transfer data.

To connect a digital still camera

- If your digital video camera recorder includes a **Memory Stick** slot, you can copy images from it to your computer via a **Memory Stick** card. Copy images to the **Memory Stick** card, insert the card into the optional **Memory Stick** / PC Adapter, and then insert the adapter into the PC card slot on your computer.
- Use the IOIO symbol to locate the Serial connector. Plug the connecting cable into this port on the port replicator and into the Digital I/O connector on the digital still camera.



The Sony Digital Still Camera is pictured here; other cameras may connect differently.

See the manual that came with your digital camera or other serial device for more information on installation and use.

If you use a digital camera that has an infrared data communication system or other infrared communication device, see "Using Infrared Communication Devices" on page 30.

Connecting the CD-ROM Drive

You can use the optional PCGA-CD51 CD-ROM drive with your notebook computer.

> Procedures for connecting a CD-ROM drive may vary, depending on the CD-ROM drive.
>
> See the manual that came with your CD-ROM drive for more information on use.
>
> If you play an audio CD in the optional PCGA-CD5 CD-ROM drive, connect a headphone or an external speaker, and change the settings as below.

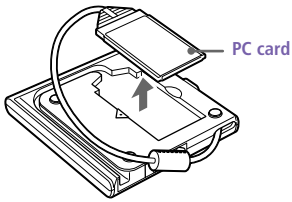
To play audio CDs, you need to connect the optional PCGA-CD51 CD-ROM. To change the settings:

1. Click the Start button, select Settings, and click Control Panel.
2. Click the Multimedia icon.
3. Click the CD tab and make sure the "Enable digital CD audio for the CD-ROM device" box has no check mark.

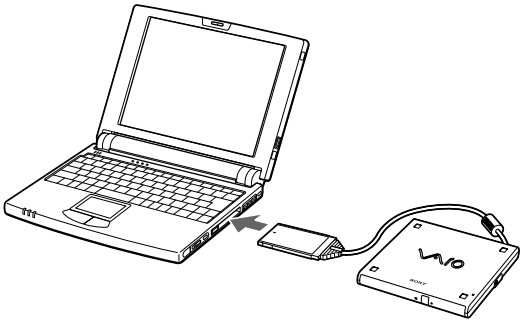
To connect the CD-ROM drive

> You can connect a PCGA-CD51 CD-ROM drive while the computer is on, unless you want to use the System and Application Recovery CDs. Turn off your computer before using the System and Application Recovery CDs.

1. Remove the PC card slot protector from the PC card slot. See "Using PC Cards" on page 26 for details.
2. Remove the PC card from the bottom side of the CD-ROM drive.



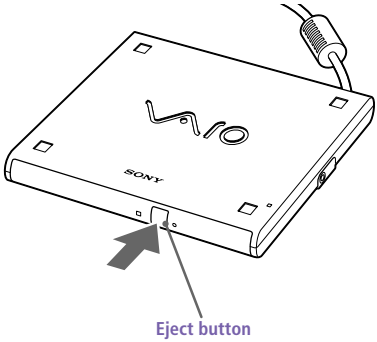
3 Insert the PC card into the PC card slot with the SONY logo facing up. See “Using PC Cards” on page 26 for details.



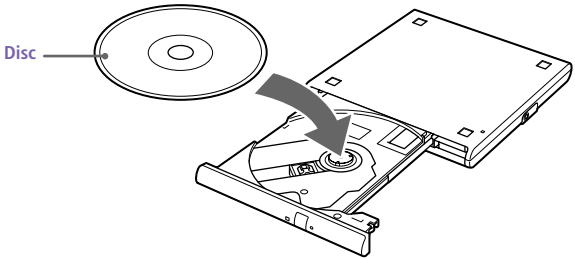
A protective cover is attached to the lens of the CD-ROM drive at the factory. Before using the CD-ROM drive, remove the protective cover.

To insert a CD-ROM disc

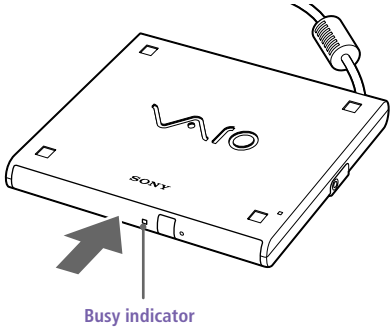
1 Press the Eject button. The disc tray slides out.



2 Place the CD-ROM disc in the tray with the label side facing up. Push the disc onto the hub until the disc clicks into place.



3 Close the tray by pushing it gently. The BUSY indicator on the CD-ROM drive flashes while your computer is reading data from the disc.



To remove the CD-ROM drive

❑ Remove the PC card from the computer. See "Using PC Cards" on page 26 for details.

Before removing the PC card, make sure there is no disc in the tray.

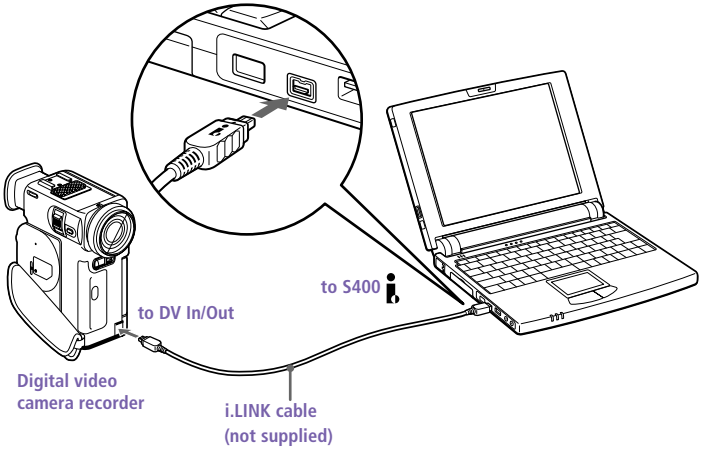
If the disc tray does not eject using the eject button, use the pin located on the bottom of the CD-ROM drive to manually eject the tray. To manually eject the tray, insert the pin into the emergency eject hole on the front of the CD-ROM drive. See the manual that came with your CD-ROM drive for more information of its use.

Connecting an i.LINK device

Your VAIO N505 SuperSlim Pro notebook includes an i.LINK (IEEE-1394) connector, which you can use to connect to an i.LINK device such as a digital video camera recorder.

To connect a digital video camera recorder

- Plug one end of an i.LINK cable into the S400 connector on the left side of the computer and the other end into the DV In / Out connector on the digital video camera recorder.



The Sony digital video camera recorder (DCR-PC7) is pictured; your digital video camera recorder may need to be connected differently.

On Sony digital video cameras, connectors labeled "DV In/Out" or "i.LINK" are i.LINK-compatible.

See the manual that came with your digital video camera recorder for more information on installation and use.

You can only connect one digital video camera recorder at a time. The software limits the use of more than one digital video camera recorder or i.LINK device at the same time.

The i.LINK connector does not supply power to external devices. If the external device requires power from the i.LINK connector, you cannot use the device with your computer.

The VAIO 505 SuperSlim notebook supports transfer rates up to 400 Mbps; however, the actual transfer rate varies according to the transfer rate of the external device.

The i.LINK features available may vary depending on the software applications you use. See the documentation that came with your software for more information.

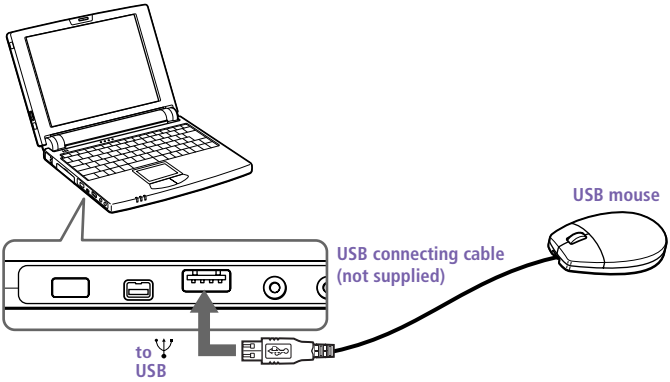
See page 29 for a list of i.LINK cables compatible with your VAIO 505 SuperSlim notebook. Be sure to use 400 Mbps rate cables.

Connecting a Universal Serial Bus (USB) Device

You can connect a USB device, such as a USB mouse, to your computer.

To connect a USB device

Use the ⚲ symbol to locate the USB connector on the right side of the computer. Plug one end of the USB cable into this port and the other end into the USB mouse.



You can connect the optional Sony USB mouse (PCGA-UMS1). The driver for PCGA-UMS1 is preinstalled on your computer.

To use the supplied floppy disk drive simultaneously, connect the optional i.LINK port replicator (PCGA-UPR5) to your computer, and then plug the USB device into the USB connector on the i.LINK port replicator.

Connecting an External Display

You can connect an external display to your notebook computer. For example, you can use the computer with a computer display (monitor) or projector.

Turn off your computer and the peripherals; unplug the AC adapter and the power cord before connecting the external display.

Connect the power cord after connecting all the other cables.

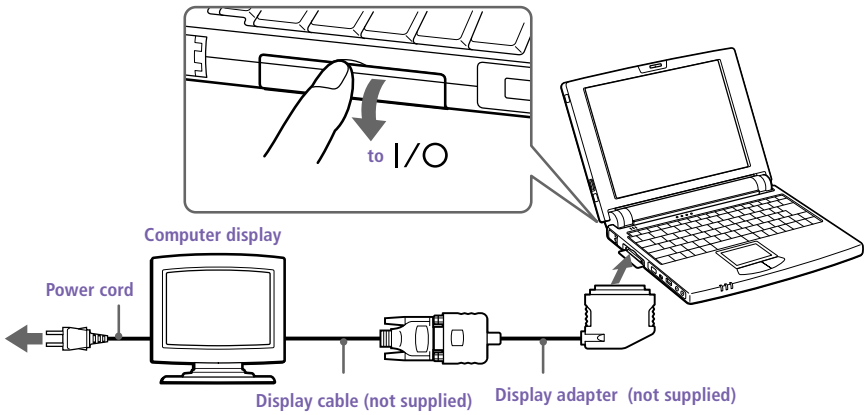
Turn on the peripherals, then turn on your computer.

Some computer displays or projectors may not be used as a monitor with the LCD on your computer display at the same time.

The optional i.LINK port replicator allows you to connect an external display eliminating the need for the display adapter. See "Connecting the i.LINK Port Replicator" on page 37.

To connect a computer display

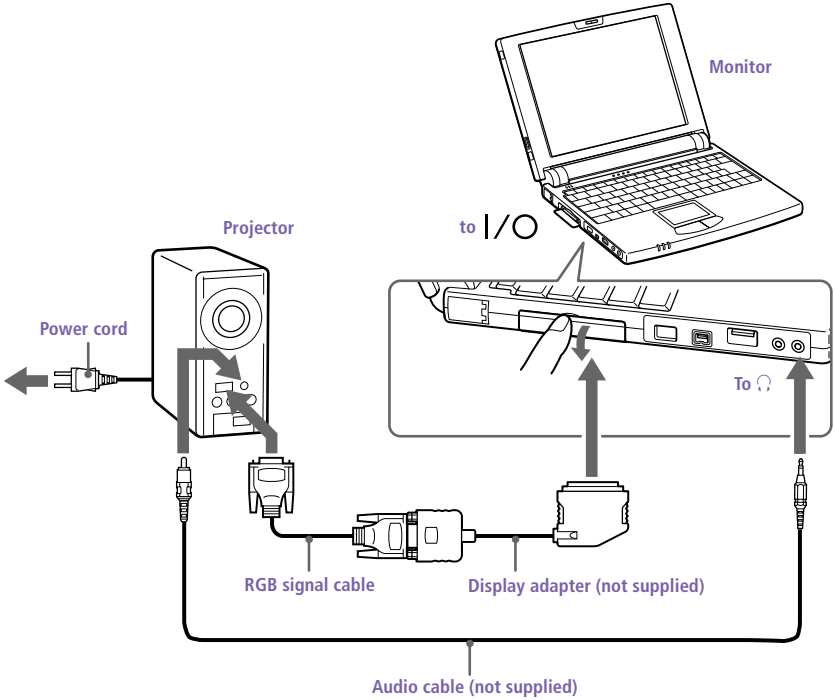
Use the I/O port replicator connector on the left side of the computer. Plug the optional PCGA-DA5 display adapter into this connector. If necessary, plug one end of the display's power cord into the display, and the other end into an AC outlet.



See the manual that came with your computer display for more information on installation and use.

To connect a projector

You can use a projector, such as the Sony LCD Projector, as an external display.



See the manual that came with your projector for more information on installation and use.

To remove the display adapter

Press both sides of the display adapter connector and unplug it from the computer.

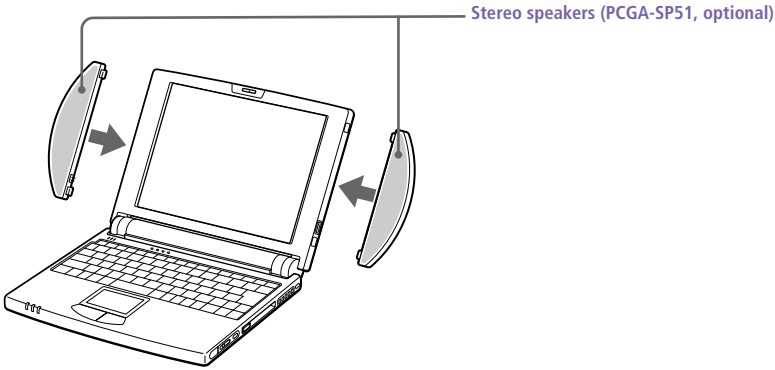
To select a display

When you connect an external display to your computer, you can press Fn+F7 to toggle the output between the Liquid Crystal Display (LCD), the external monitor, or both devices.

See "Selecting the Display Mode" in the online document *Customizing Your VAIO® 505 SuperSlim Notebook* for more information.

Connecting External Speakers

You can use the optional PCGA-SP51 stereo speakers or other speakers designed for computer use with your computer. See the manual that came with your speakers for more information.



You cannot use the optional PCGA-SP5 stereo speakers.

Turn down the internal speakers volume before you connect the external speakers.

To adjust the speaker volume, press Fn+F4. See "Combinations and Functions with the Fn Key" on page 20 for details.

Do not place diskettes on the speakers; the speaker's magnetic field may damage the data on the diskettes.

The internal speaker does not work when the external speakers are connected.

Adding Memory

In the future you may want to install memory modules to expand the functionality of your computer. You can increase memory to 128 MB by installing optional memory modules. To upgrade memory, contact your nearest Sony Authorized Service Center or check www.ita.sel.sony.com/support/pc/pcdoc.html. For the location of a service center near you, call 1-888-4SONYPC.

Getting Help

Sony provides several support options for your Sony computer. When you have questions about your computer and the preinstalled software, check these sources for answers, in the following sequence:

1	*VAIO® 505 SuperSlim Notebook Read Me First*	Contains Frequently Asked Questions, the most up-to-date information on using your computer, and software support information.
2	*VAIO® 505 SuperSlim Notebook User Guide*	The User Guide (this manual) contains information on how to get the most from your computer, find help, and solve common problems. It also contains product specifications.
3	*Customizing Your VAIO® 505 SuperSlim Notebook*	The electronic document contains additional information on customizing your notebook computer. You can access this guide from the Windows Start menu by selecting Programs / VAIO / Documentation.
4	Manuals and online help files that may accompany your preinstalled software	Most of the manuals for preinstalled software are located on your hard disk drive as online help files. You can access the online help files from the Help menu in the specific application. A printed manual is available for some applications.
5	Knowledge Database	Provides instant access to information on commonly encountered problems. Enter a description of your problem and the Knowledge Database searches for the corresponding solutions online. You can access the Sony Knowledge Database at: http: / / www.sony.com / pcsupport

6	Sony Fax-on-Demand	This service provides you with answers to commonly asked questions. You can use this automated service to request a list of available topics and then select the topics that you want to receive. To contact the Sony fax-on-demand service, call 1-888-4SONYPC (1-888-476-6972). (Requires a fax machine or your fax software.)
7	Calling Sony Customer Support	You can call and speak with a Sony Customer Support Representative without using your computer by calling 1-888-4SONYPC (1-888-476-6972). Software support is available free of charge for 90 days after the original date of purchase.

Troubleshooting

This section describes how to solve common problems you may encounter when using your computer. Many problems have simple solutions, so try these suggestions before you call Sony Customer Support.

When you reconnect devices, be sure to turn off the computer as described in "Shutting Down Your Computer" on page 13. Turning off the computer using other methods may result in data loss.

My computer does not start

- Check that the computer is plugged into a power source and that it is turned on. Check that the power indicator on the front panel of the computer indicates that the power is on.
- Check that the battery is inserted properly and that it is charged.
- Make sure there is no diskette in the floppy disk drive.
- Confirm that the AC adapter and all cables are connected firmly, as described in "Connecting Peripheral Devices" on page 35.
- If you plugged the computer into a power strip or UPS, make sure the power strip or UPS is turned on and working.
- If you are using an external display, check that it is plugged into a power source and turned on. Check that the brightness control is adjusted correctly. See the manual that came with your display for details.
- Moisture condensation may have occurred. Do not use the computer for at least one hour and then turn on the computer.
- If the above procedures do not work, press the reset switch on the bottom of the computer using a small pin, and then restart the computer.

When I turn on my computer, the message "Operating system not found" appears and Windows does not start

- Check the floppy disk drive to see if a non-bootable diskette is in the drive.
- If a non-bootable diskette is in the drive, turn off the computer, remove the diskette, and then turn on the computer again. Confirm that Windows starts properly. If Windows still does not start, follow the procedure below to initialize the BIOS.

- If the floppy disk drive is empty or contains a bootable diskette, use the following procedure to initialize the BIOS:

  1. Remove the floppy disk drive, port replicator, PC card, and any other peripheral devices from the computer.
  2. Turn the computer off and then turn it on again.
  3. Turn on the computer and press the F2 key when the Sony logo appears. The BIOS setup menu screen appears.
  4. Press the arrow keys to select the Exit menu.
  5. Press the arrow keys to select Get Default Values and then press the Enter key. The message "Load default configuration now?" appears.
  6. Check that Yes is selected, then press the Enter key.
  7. Press the arrow keys to select Exit (Save Changes) and then press the Enter key. The message "Save configuration changes and exit now?" appears.
  8. Check that Yes is selected, then press the Enter key. The computer restarts.

When I turn on my computer, the message "No system disk or disk error. Replace and press any key when ready" appears and the computer does not start.

Remove the diskette from the floppy disk drive by pressing the Eject button and then press any key.

When I turn on my computer, the message "C:\WINDOWS" appears and Windows does not start

- Enter "win", then press the Enter key. When the message "MS-DOS is activated. Do you want to return to Windows and restart applications?" appears, press the Enter key again. Windows starts.
- When shutting down your computer, follow the procedure in "Shutting Down Your Computer" on page 13. Windows should start automatically the next time you turn on your computer.

My LCD does not display anything

- Check that the computer is plugged into a power source and that it is turned on. Check that the power indicator on the front panel of the computer is on.
- Check that the battery pack is inserted properly and that it is charged.

- The computer may be in LCD (Video) Standby mode. Press any key to activate the display.
- The video output may be directed to an external display attached to the port replicator. Press Fn+F7 until video output appears on the LCD.

The screen image on my external display is not centered or sized properly

Use the controls on your external display to adjust the image. See the manual supplied with your display for more information.

My computer "locks up"

- Try restarting the computer. On the Windows taskbar, click the Start button, click Shut Down, and then click Restart the computer.
- If you cannot restart as described in the preceding step, you can restart the computer by pressing Ctrl+Alt+Delete.
- If the previous step does not work, slide the power switch toward the front and hold it for four seconds. This turns off the power.
- If your computer locks up while playing a CD-ROM, stop the CD-ROM, and restart the computer by pressing Ctrl+Alt+Delete.

Pressing Ctrl+Alt+Delete or turning off the computer with the power switch may result in data loss in files that are currently open.

My software program "locks up" or crashes

Contact the software publisher or designated provider for technical support.

I cannot print

Try changing the printer port mode. In Sony Notebook Setup, select the Printer / FDD tab. If the printer port mode is set to ECP, change it to bi-directional. If the printer port mode is set to bi-directional, change it to ECP. See "Displaying the Sony Notebook Setup Screen" in the online document *Customizing Your VAIO® 505 SuperSlim Notebook* for details on using Sony Notebook Setup.

I cannot play a CD-ROM

- Make sure the label of the CD-ROM is facing up.
- If the CD-ROM requires software, make sure the software is installed according to the program's instructions.
- Moisture condensation may have occurred. Disconnect the CD-ROM drive and disconnect the power to the drive for at least one hour.
- Make sure the CD-ROM drive is properly connected. See "Connecting the CD-ROM Drive" on page 45.
- Clean the CD-ROM.
- Check the speaker volume.

When I click an application icon a message appears, such as "You must insert the application CD into your CD-ROM drive," and the software does not start

- Some titles require specific files that are located on the application's CD-ROM. Insert the disc and try starting the program again.
- Make sure you place the disc in the tray with the label side facing up.

My floppy disk drive cannot write to a diskette

- The diskette is write-protected. Disable the write-protect feature or use a diskette that is not write-protected.
- Check that the diskette is properly inserted into the floppy disk drive.

My speaker has no sound

- The built-in speaker is turned off. Press Fn+F3 to turn on the speaker.
- The speaker volume is set to the minimum level. Press Fn+F4, and then press ↑ or → to increase the volume. If you connect the external speakers, turn up the volume.
- If your computer is powered by the battery, check that the battery is connected properly and that it is charged.
- If you are using an application that has its own volume control, check that the volume is turned up.
- Check the volume controls in Windows 98.
- If you have connected a headphone or an audio cable to the Headphone connector, disconnect the cable.
- If you connect the external speakers, assure that the speakers are properly connected.

When I press Fn+F3, I see the message "Sound Disabled"

Use the following procedure to enable sound:

1. Click Start, select Settings, and click Control Panel.
2. Click the System icon.
3. Click the Device Manager tab.
4. Click Sound, video & game controllers.
5. Double-click Yamaha DS-XG Legacy Sound System (WDM).
6. Uncheck the "Disable in this hardware profile" box.
7. Click Okay. Sound is now enabled.

My modem does not work

- Check that the phone line is plugged into the line jack. See "Connecting a Phone Line" on page 36 for details.
- Check that the phone line is working. You can check the line by plugging in an ordinary phone and listening for a dial tone.
- Check that the phone number the program is dialing is correct.
- Check that the software you are using is compatible with the notebook computer modem. (All preinstalled programs are compatible.) Call the software publisher or Sony Customer Support.

My modem connection is slow

The computer's modem uses K56flex™ technology / V.90. Many factors influence modem connection speed, including telephone line noise or compatibility with telephone equipment (such as fax machines or other modems). If you think your modem is not connecting properly to other PC-based modems, fax machines, or your Internet Service Provider, check the following:

- Have your phone company check that your phone line is free from any line noise.
- If your problem is fax-related, check that there are no problems with the fax machine you are calling and that it is compatible with fax modems.
- If you are having a problem connecting with your Internet Service Provider, check that the ISP is not experiencing technical problems.
- If you have a second phone line available, try connecting the modem to that line.

I cannot use DV devices and messages appear on the screen

- Check that the DV device is turned on and that the cables are properly connected.
- If you are using multiple i.LINK devices, the combination of the connected devices may cause unstable operation. In this case, turn off the power to all connected devices and disconnect unused devices. Check the connection, then turn on the power again.

My computer does not shut down

It is best to shut down your computer using the Shut Down command on the Windows 98 Start menu. Using other methods, including those listed here, may result in loss of unsaved data. If the Shut Down command does not work properly, follow these steps:

- Restart the computer by pressing Ctrl+Alt+Delete. If this does not work, slide the power switch forward and hold it for four seconds.
- Unplug the computer from the AC adapter and remove the battery pack from your computer.

My PC card is not working

- Make sure the PC card is compatible with Windows 98.
- Use the Sony Notebook Setup utility to disable devices you are not currently using.

The device, which is connected to the i.LINK connector on the optional i.LINK port replicator, does not work properly.

Use the i.LINK connector on your computer.

The i.LINK device, which is connected to the computer, is not recognized, or a message appears.

Disconnect the i.LINK device once, then reconnect it.

The key top comes off

Replace the key top to its original location, and press it until it clicks. If the enter key or the space bar key comes off, see “Replacing a key top” on page 19 for details. If you take off the key top intentionally, or press it excessively when you replace it, it may cause a malfunction. Handle the keys with care.

Using the System and Application Recovery CDs

The following sections describe how to use the System Recovery and Application Recovery utilities. You need to connect the optional PCGA-CD5 or PCGA-CD51 CD-ROM drive to use the System and Application Recovery CDs.

Using the System Recovery CD(s)

You can reinstall software titles that shipped with your computer if they are corrupted or accidentally erased. You may not need to recover the entire contents of your hard drive. If you experience a problem with your computer, reinstalling an individual device driver or software title may correct the problem. Use the Application Recovery CDs to reinstall individual applications or device drivers. See "Using the Application Recovery CD(s)" on page 65.

The System Recovery CD contains a backup copy of all the software originally installed on your hard disk drive. **It can be used only to recover the hard disk of the notebook computer you purchased.**

The System Recovery utility gives you three options:

- **Full Restore without Format** restores all the software titles that originally came with your computer without formatting the hard disk.
- **Full Restore with Format** formats the hard disk drive and then restores all the original software.
- **Operating System Only** restores the Windows 98 operating system, the notebook computer utility programs, and the device drivers that shipped with your computer.

! **If you choose the Full Restore with Format or Operating System Only option, your hard disk will be formatted, which removes all the information on the hard disk drive. You will lose any software you have installed and any other files you have created since you started to use your computer. This means you will have to reinstall any applications that were not included with the computer when you purchased it. If you choose the Full Restore without Format option, you may need to reinstall applications that were not included with the computer when you purchased it. If you have any questions on using the System Recovery CD, contact Sony Customer Support.**

To use the System Recovery CD(s)

The optional PCGA-CD5 or PCGA-CD51 CD-ROM drive must be connected to the computer to use the System Recovery CD.

You need to complete the Windows® 98 registration process when you use the System Recovery CD. Make sure you have the product ID number located on the cover of your Microsoft Windows 98 Getting Started manual. You will need this number to complete the recovery process.

1. Insert the Sony System Recovery CD in the CD-ROM drive.
2. Shut down your computer as described in "Shutting Down Your Computer" on page 13.
3. Wait four seconds and turn on your computer.
4. Click OK to signify you have read and accept the Microsoft End-User License Agreement.
5. When the System Recovery menu appears, follow the on-screen instructions to complete the recovery process.

Your system may include one or two System Recovery CDs. If you have two System Recovery CDs, insert the first CD to run the System Recovery program. You are prompted to insert the second CD once the information from the first CD has been installed.

The recovery process takes 30 to 60 minutes to complete.

If your computer does not start from the Recovery CD

1. Slide the power switch forward and hold it for more than four seconds to turn off the computer.
2. Turn on the computer and press the F2 key when the Sony logo appears. The BIOS setup menu screen appears.
3. Press the arrow keys to select the Exit menu.
4. Press the arrow keys to select Get Default Values and then press the Enter key. The message "Load default configuration now?" appears.
5. Check that Yes is selected, then press the Enter key.
6. Press the arrow keys to select Exit (Save Changes) and then press the Enter key. The message "Save configuration changes and exit now?" appears.
7. Check that Yes is selected, then press the Enter key. The computer restarts from the Recovery CD.

Using the Application Recovery CD(s)

The Application Recovery CDs allow you to reinstall individual applications and device drivers if they are corrupted or accidentally erased. Reinstalling an individual device driver or software title may correct a problem you are experiencing with your computer, and you may not need to recover the entire contents of your hard drive. If you do need to reinstall all the software titles that shipped with your computer, use the System Recovery CD. See "Using the System Recovery CD(s)" on page 63.

You must be in Windows to run the Application Recovery CDs. The application will not run from DOS. If you have any questions on using the Application Recovery CDs, contact Sony Customer Support.

Some applications on the Application Recovery CDs must be decompressed before the installation process begins. Your screen does not change while the files are decompressed. The time to decompress an application varies and may be as long as 30 minutes.

To use the Application Recovery CD(s)

1. Turn on your computer. If your computer is already on, close all applications.
2. When the Windows desktop appears, insert the first Sony Application Recovery CD in the CD-ROM drive. The Application Recovery utility loads automatically.
3. When the Application Recovery menu appears, follow the on-screen instructions to complete the recovery process.

Your system may include one or two Application Recovery CDs. If you have two Application Recovery CDs, insert the first CD to run the Application Recovery program. You may be prompted to insert the second CD, depending on the application you wish to restore.

Hard Drive Partition

In order to improve the performance of your computer's DVgate™ Motion software, the hard disk drive on your computer has been formatted with two partitions, C and D. DVgate Motion saves files to the D partition. This prevents large video captures from consuming the available space on your C partition. To maintain optimum performance of DVgate Motion, you should defragment your D partition regularly. See the DVgate Motion online help for more information.

About the Software on Your Computer

Your VAIO 505 SuperSlim notebook is ready to help you work, play, learn, and communicate as soon as you turn it on. This section gives you an overview of the activities you can perform with your software titles. For support information, see “For Answers to Your Software Questions” on page 73.

Adobe Acrobat® Reader
Adobe Systems Inc.

Acrobat Reader software allows you to view, navigate, and print electronic documents in Adobe Portable Document Format (PDF), an open file format that is intended to preserve the fidelity of documents created on all major computer platforms.

Adobe PhotoDeluxe® Business Edition
Adobe Systems Inc.

Create amazing photo effects with Adobe PhotoDeluxe. Without learning complex software, you can enhance, restore, and be creative with your photos. Includes built-in guided activities, stock photos, clip art and templates to assist you.

America Online®
America Online

America Online is a popular Internet online service. Stay in touch with family and friends with Easy-to-Use E-mail, manage your personal finances, get the latest news and sports scores, and chat with thousands of others who share your interests.

AT&T WorldNet® Service
AT&T

Fast, reliable Internet access from AT&T WorldNet Service. AT&T WorldNet Service provides web-based e-mail, a personalized start page from Excite, easy access to the Excite search engine, free web pages, online and live agent technical support, instant messaging, and special shopping discounts at Market Square.

CompuServe® 2000
CompuServe, Inc.

The all new CompuServe 2000 delivers a powerful tool for Internet users who want serious and timely information, in-depth research, and professional communities backed by state-of-the-art technologies, including high-speed access and powerful e-mail messaging.

DVgate™ Motion
Sony Electronics

Connect a digital video camera recorder to the i.LINK connector and capture your own video clips. You can edit the clips from your video, add others, and combine clips into new movie segments.

DVgate™ Still
Sony Electronics

Connect a digital video camera recorder to the i.LINK connector and capture your own still images. You can save your images in a variety of popular file formats.

EarthLink Sprint TotalAccess™
EarthLink Network, Inc.

An Internet Service Provider that supplies access, information, and assistance to its customers, introducing them to the Internet. Member benefits include e-mail, a Personal Start Page, a free 6 MB web site, a member newsletter, and 24-hour technical support.

eMail inChorus™
Softlink, Inc.
This communications tool turns your e-mail into multimedia e-mail. With eMail inChorus™, in minutes you can send your colleagues and friends presentations and e-mails narrated with your pre-recorded voice and illustrated with graphics and animated annotation.

McAfee VirusScan®
Network Associates, Inc.

Protect your computer from viruses. VirusScan can detect viruses from floppy disks, Internet downloads, e-mail attachments, intranets, shared files, CD-ROMs, and online services.
popular file formats.

Media Bar™
Sony Electronics

Media Bar software is your all-in-one solution for audio / video playback. Media Bar software handles all common computer multimedia formats and controls selected Sony devices. In addition to audio / video library cataloging and playlist management, Media Bar software includes digital video quality control and effects features. Media Bar software seamlessly integrates a variety of new media formats with an easy-to-use software interface.

Microsoft® Internet Explorer for Windows® 98
Microsoft Corporation

Internet Explorer delivers the web the way you want it. It is safe, easy to use, and you can personalize how you access the web. Outlook Express and other tools in Internet Explorer also help you have a great experience when you are on the web.

Microsoft® Money 99
Microsoft Corporation

Microsoft Money 99 is personal finance software that lets you perform your financial tasks, everything from paying bills to planning for the future, in a smarter, faster way. With Money's online services, you can pay bills and bank from the comfort of home.

Microsoft® Outlook® 98
Microsoft Corporation

Outlook 98 is Microsoft's premier messaging and collaboration client. It combines the leading support for Internet standards-based messaging systems with integrated calendar, contact, and task-management features.

Microsoft® Word 97
Microsoft Corporation

The world’s leading word processor allows you to create professional-looking letters, school reports, and other documents using ready-to-use templates, automatic formatting and spelling and grammar checkers.

Microsoft® Works Suite

Microsoft Corporation

Microsoft Works Suite is an integrated program for creating spreadsheets, databases, calendars, and more. The Works Calendar reminds you of important dates.

MindSpring Internet Desktop

MindSpring Enterprises, Inc.

The MindSpring Internet Desktop offers you access to different areas of the Internet from one convenient program. With a single click on the MindSpring Internet Desktop, you can easily search the Internet, send and receive e-mail, access news and weather, and more.

Netscape Communicator™

Netscape Communications

Netscape Communicator is an all-in-one Internet tool that makes it easy to browse the web, send Internet e-mail, chat, read newsgroups and compose great web documents.

PictureGear™

Sony Electronics

This image management software displays images from your hard drive, a Sony Digital Still Camera, or a Sony Mavica® Camera. The images appear in a convenient light-table format, so that you can easily view the contents of an entire folder.

Prodigy Internet™

Prodigy Communications Corporation

An online service that helps you find what you need online faster and smarter. Prodigy delivers powerful online content such as sports scores, stock quotes, news, and easy access to Excite, plus quality customer service, all at a competitive price.

Quicken® Basic 99
Intuit, Inc.

Quicken is a fast, easy way to organize your finances. Quicken works just like your checkbook, so it is easy to learn and use. Quicken manages all your finances, bank accounts, credit cards, investments, and loans. You can even pay your bills online.

Smart Capture
Sony Electronics

Smart Capture is a fun new way to send multimedia messages via e-mail. Smart Capture manages the i.LINK connection between your computer and a Sony Digital Handycam® camcorder that supports the i.LINK interface. It allows you to capture compressed video or still images that you can save or share via e-mail. A smart solution to computer, digital audio / video and network convergence.

Smart Connect
Sony Electronics

Smart Connect allows you to use an i.LINK cable (not supplied) to connect your VAIO computer to another VAIO computer that supports Smart Connect. You can then use one computer to copy, delete, and edit files on the other computer. You can also print from a printer attached to either computer.

Smart Label
Sony Electronics

This tool allows you to record your voice and play it back at any time to remind you of important information, such as telephone numbers or appointments. It can also be used as a normal text memo pad. It can record a voice memo up to 60 seconds long. You can combine this with pictures and / or text to create a memo that you can place on your computer desktop.

Smart Publisher
Sony Electronics

Smart Publisher makes it easy for you to send web pages to the Internet using e-mail or FTP.

Smart Write
Sony Electronics

A word processor that allows you to create documents that incorporate pictures and sound. With Smart Write, you can record your voice right into the page and draw directly onto your documents with a computer "pencil."

WinFax® Basic Edition
Symantec Corporation

WinFax Basic software incorporates an easy-to-use interface that allows you to send and receive faxes easily. Upgrade to WinFax Pro to receive additional features.

About Your Recovery CDs

Application Recovery CD(s)
Sony Electronics

This program allows you to reinstall individual applications and device drivers. Use it to restore corrupted or accidentally erased files.

System Recovery CD(s)
Sony Electronics

This program allows you to restore the software titles that shipped with your computer if they become corrupted or are erased accidentally. It can be used only to restore the hard disk of the Sony computer you purchased.

For Answers to Your Software Questions

Acrobat® Reader, Adobe PhotoDeluxe® Business Edition (Adobe Systems Incorporated)

website	http://www.adobe.com/
phone	206-628-2746 (fee-based support)
fax	206-628-5737
e-mail	techdocs@adobe.com
hours	M-F, 6 AM-5 PM PT

America Online® (America Online)

website	http://www.aol.com/
phone	800-827-3338
hours	7 days a week, 24 hours a day

AT&T WorldNet® Service (AT&T)

website	http://www.worldnet.att.net
phone	800-400-1447
e-mail	worldnet@attmail.com
hours	7 days a week, 24 hours a day

CompuServe® 2000 (CompuServe, Inc.)

website	http://www.compuserve.com/
phone	800-848-8990

EarthLink Network TotalAccess™ (EarthLink Network, Inc.)

website	http://help.earthlink.net/techsupport/
phone	800-395-8410
e-mail	support@earthlink.net
hours	7 days a week, 24 hours a day

eMail inChorus™ (Softlink, Inc.)

website	http://www.sonk.com
phone	408-970-3370
e-mail	support@sonk.com

McAfee VirusScan (Network Associates, Inc.)

website	http://support.mcafee.com
phone	408-988-3832
e-mail	cybr@nai.com
hours	M-F 9AM-5PM Central Time

Mindspring Internet Desktop (MindSpring)

website	http://help.mindspring.com/support
phone	800-719-4660

Netscape Communicator™ (Netscape Communications Corporation)

website	http://www.netscape.com/
phone	888-4SONYPC (888-476-6972)*
hours	7 days a week, 24 hours a day

* Support from 1-888-4SONY PC is free of charge for 90 days after the original date of purchase.

Prodigy Internet™ (Prodigy Communications Corporation)

website	http://www.prodigy.com/
phone	800-213-0992
hours	7 AM - 3 AM ET

Quicken® Basic (Intuit Inc.)

website	http://www.intuit.com/support
phone	900-555-4688
hours	7 days a week, 24 hours a day

Windows 98 Second Edition Operating System, Word, Works, Money, Outlook, Internet Explorer (Microsoft Corporation)

website	http://www.microsoft.com/support/
phone	888-4SONYPC (888-476-6972)*
hours	7 days a week, 24 hours a day

* Support from 1-888-4SONY PC is free of charge for 90 days after the original date of purchase.

WinFax® Basic Edition (Symantec Corporation)

website	http://www.symantec.com/techsupp/
phone	800-798-0850
fax	800-554-4403 in North America 541-984-2490 outside North America

Sony Service Center

For the Sony Service Center nearest you, call 1-888-4SONYPC (1-888-476-6972).

Specifications

Model	PCG-N505VX	PCG-N505VE
Processor	333 MHz* Pentium II	333 MHz* Celeron
Hard Disk Drive	6.4 GB†	
Standard RAM	64 MB SDRAM, expandable to 128 MB	64 MB SDRAM, expandable to 128 MB
LCD Screen	10.4" Poly-Si TFT	
L2 Cache Memory	256 KB (on CPU)	128 KB (on CPU)
MPEG	MPEG1 Digital Video supports full-screen playback	
Graphics	NM2200 (NMG5)	
Sound Capabilities	Yamaha YMF744B	
Modem	K56flex™ and V.90 compatible modem**	
Infrared	Supports 4 mbps, 1.1 mbps, and 115 kbps IrDA Standard	
Expansion Capabilities	One PCMCIA type II Card Card bus support	
Built-in Capabilities	Microphone Mono speaker Touchpad	
Telecommunication Capabilities	Data / fax send / receive	
Connection Capabilities on N505 SuperSlim Pro	Phone line (RJ-11) i.LINK port replicator i.LINK (IEEE-1394) (S400) 1 USB port Microphone In DC In Headphone	
Connection Capabilities on i.LINK Port Replicator	i.LINK (IEEE-1394)(S400) Printer Serial USB VGA monitor	
Supplied Accessories	USB floppy disk drive Rechargeable battery AC adapter and power cord i.LINK port replicator (PCG-N505VX only) Phone cable	
Service	90-day limited express service†† Extendible to one year from original date of purchase upon registration	
Limited Warranty	90-day parts / labor standard†† Extendible to one year from original date of purchase upon registration	
Power Requirements	40 watts maximum (19.5V DC / AC100-240V)	
Power Management	Energy Star Compliant Advanced Configuration and Power Interface (ACPI)	

Model	PCG-N505VX	PCG-N505VE
Battery	Lithium-ion	
Dimensions	0.78" (h) x 10.2" (w) x 8.2" (d) (19.8mm x 259mm x 208mm)‡‡	
Weight	3.1 lbs (1.36 kg)	2.7 lbs (1.20 kg)
Operating Temperature	40º F to 95º F (+5º C to 35º C)	
Operating Humidity	20% to 80% (not condensed), provided that humidity is less than 65% at 95º F (35º C), hygrometer reading of less than 84º F (29º C)	
Storage Temperature	-4º F to 140º F (-20º C to 60º C), temperature gradient less than 50º F (10º C)	
Storage Humidity	10% to 90% (not condensed) provided that humidity is less than 20% at 140º F (60º C), hygrometer reading of less than 95º F (35º C)	

*MHz denotes microprocessor internal clock speed; other factors may affect application performance.

†GB means one billion bytes when referring to hard drive capacity. Accessible capacity may vary.

**Maximum speed for faxing is 14.4 kbps. Your modem is capable of downloading at 56 kpbs using K56flex Technology or V.90. Your online service or Internet Service Provider, however, may not support this technology or operate at this speed.

††Certain restrictions apply.

‡‡Height measured at the thinnest point. Height at the thickest point is 0.87" (22.2mm).

Specifications are subject to change without notice.

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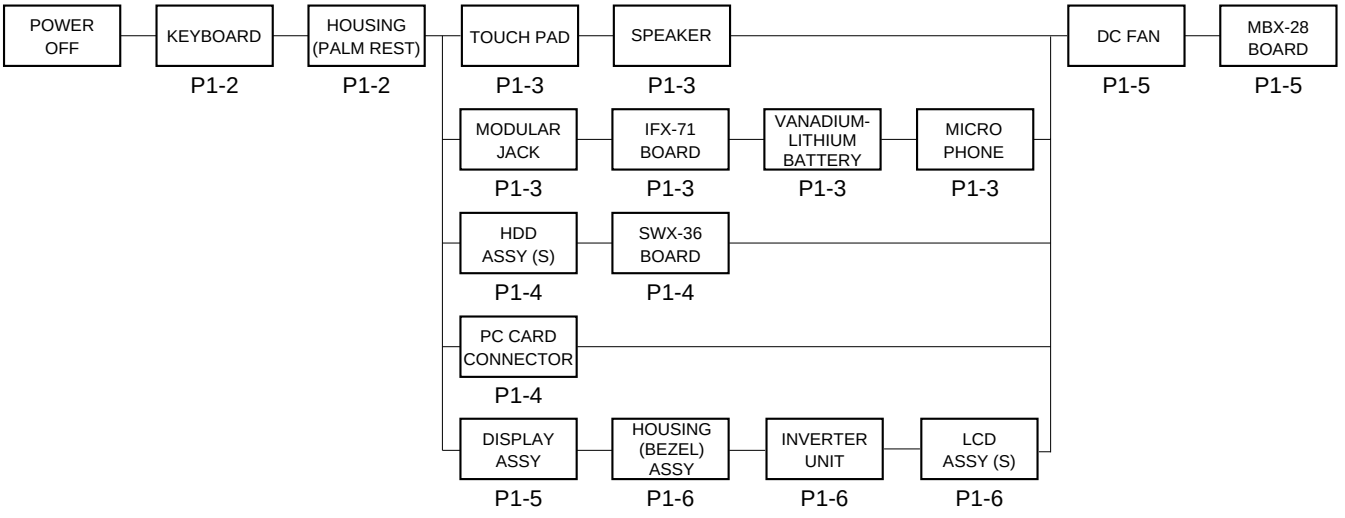
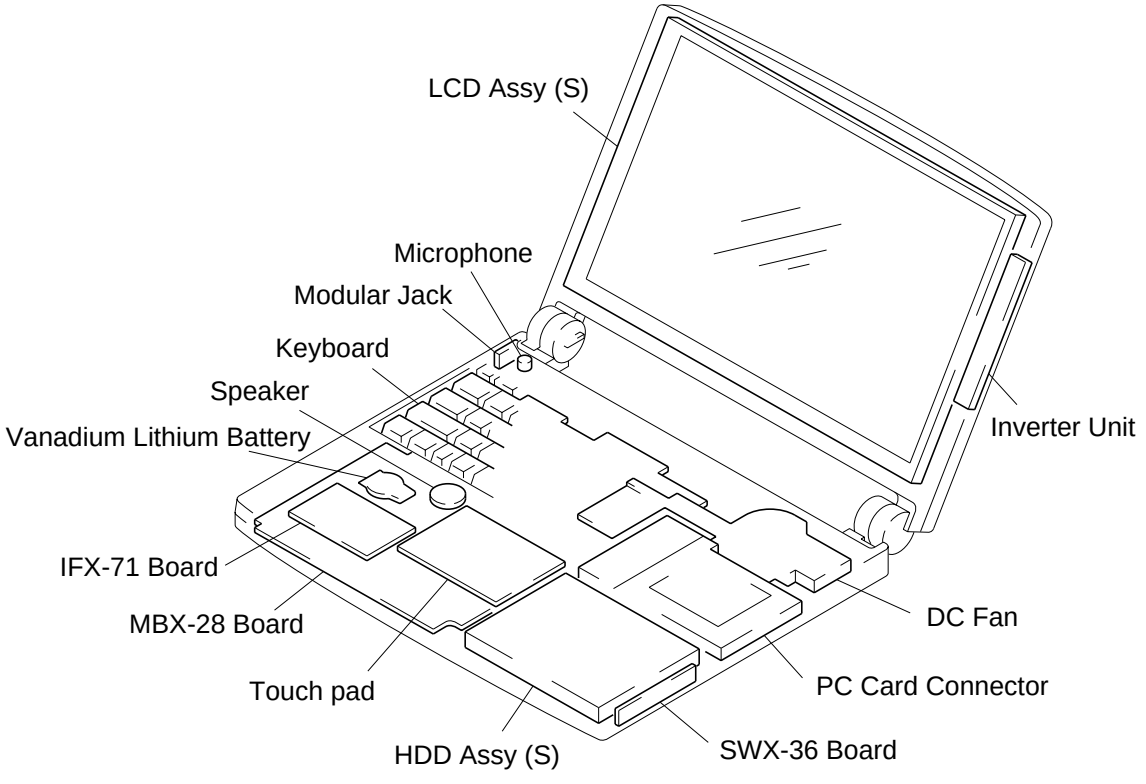
1-1. Flowchart



• P XX means pages that appears in this manual.

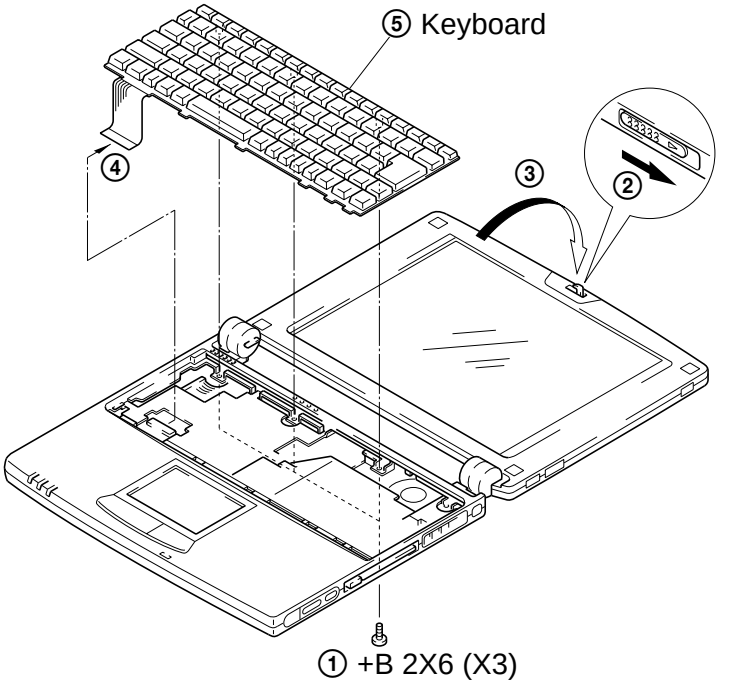
• Remember that hard disk drives are easily damaged by vibration. Always handle with care.

1-2. Main Electrical Parts Location Diagram

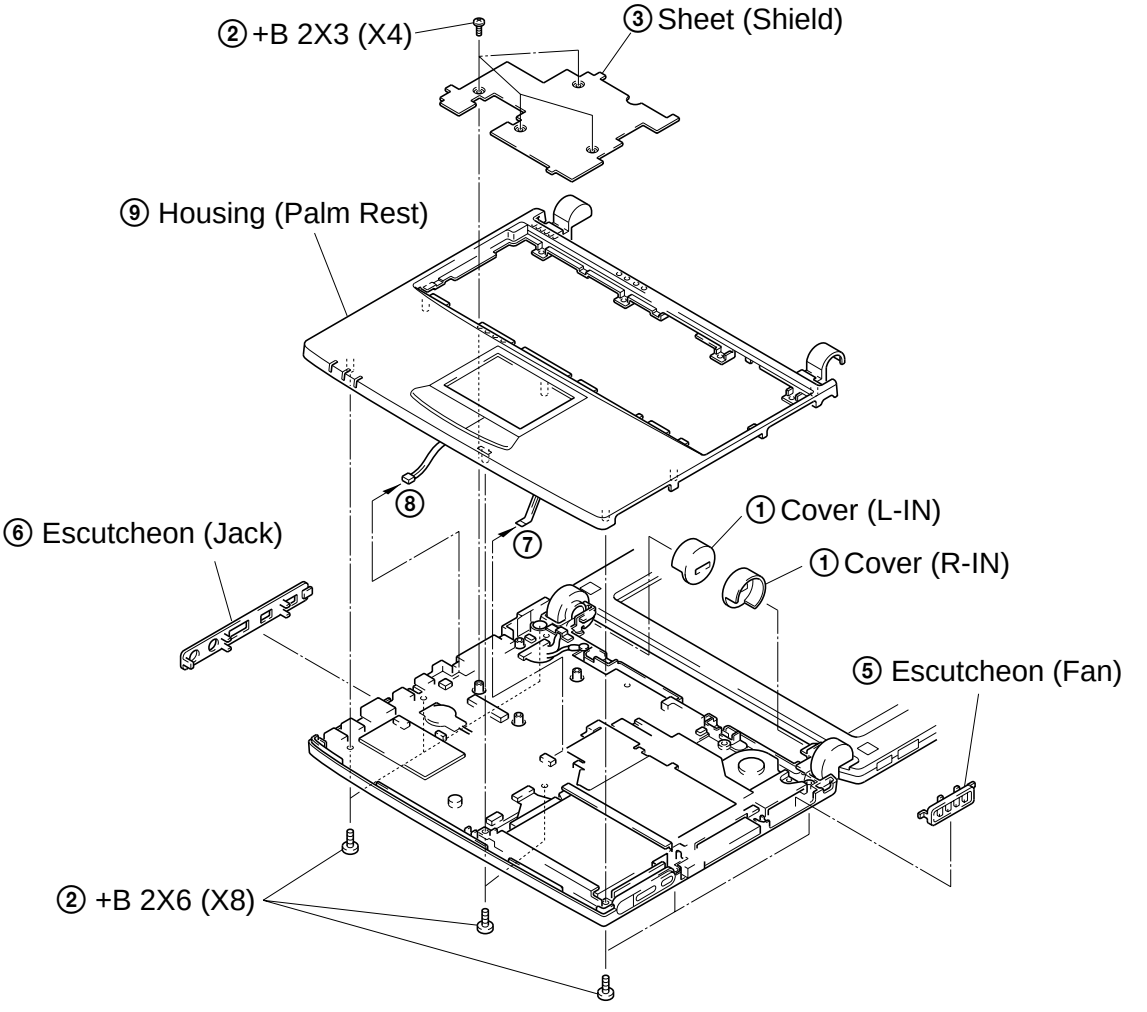


1-3. Removal

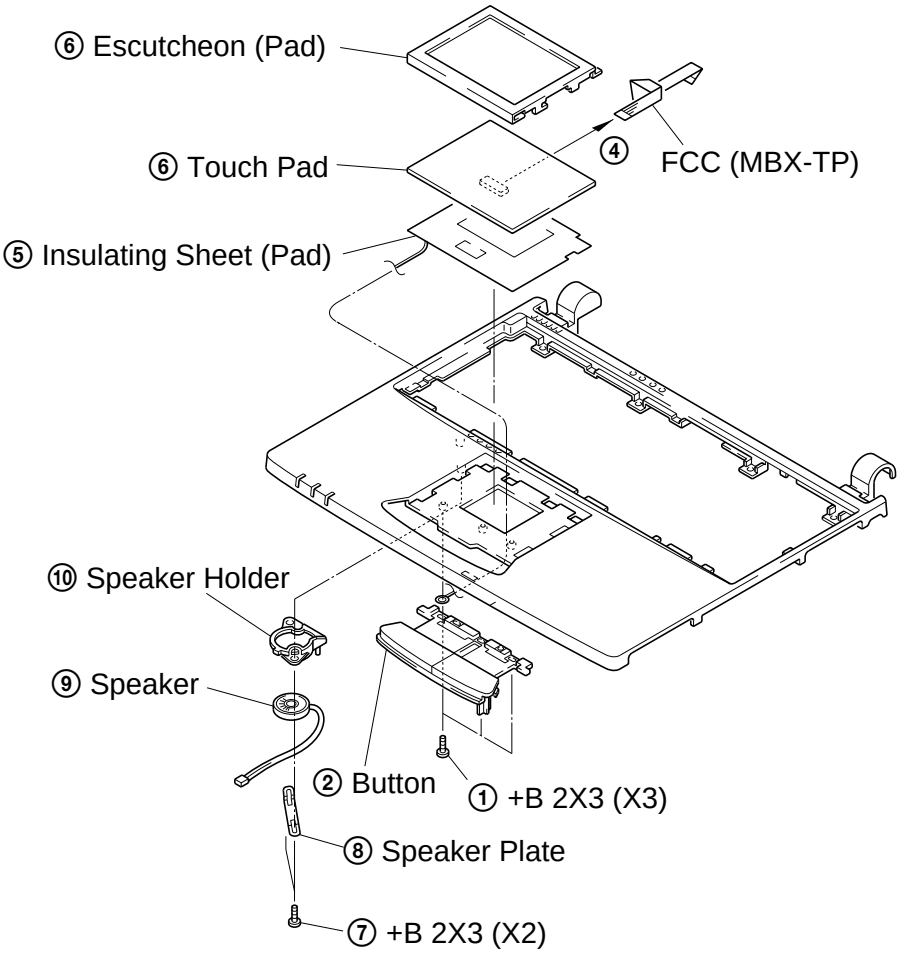
1. Keyboard



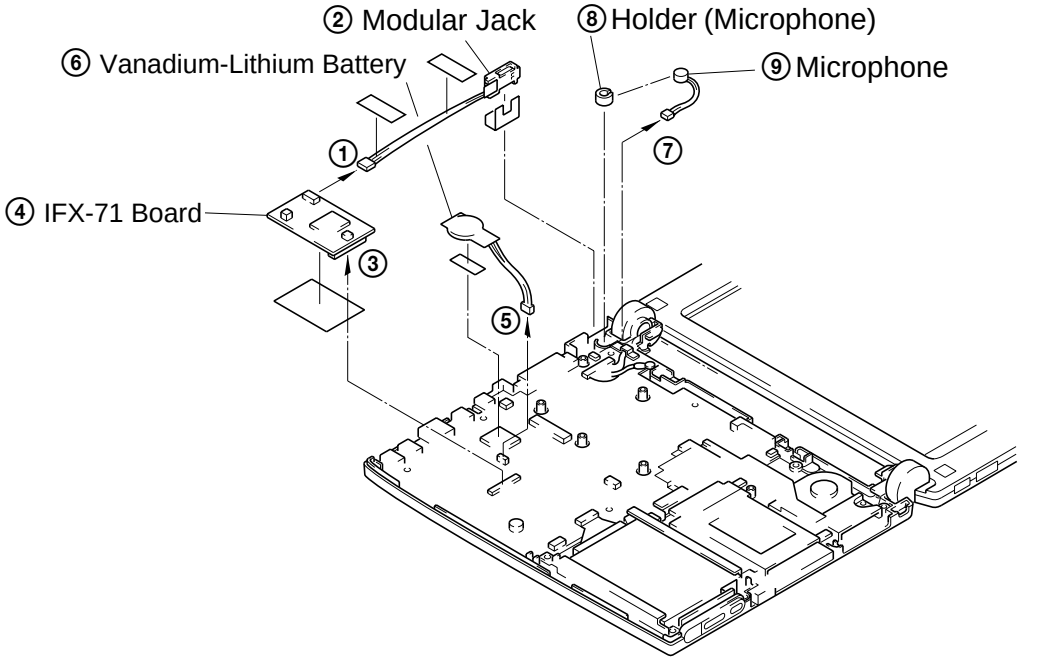
2. Housing (Palm Rest)



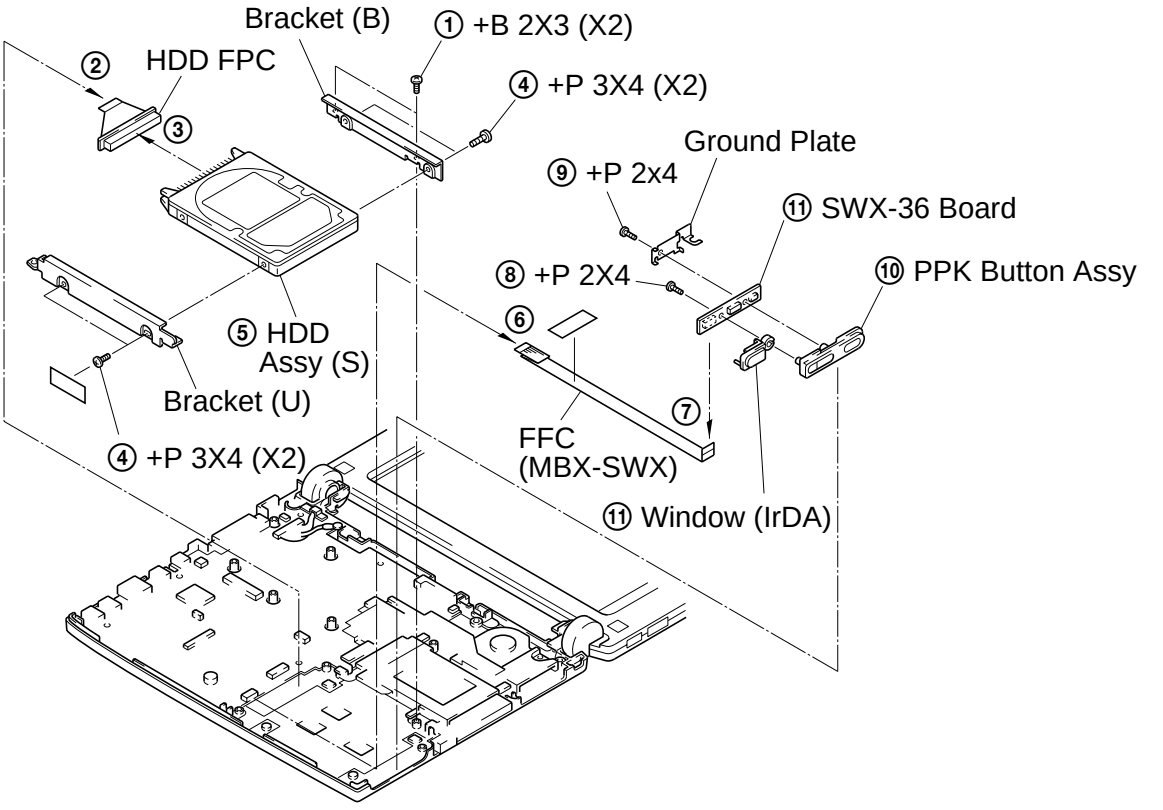
3. Touch Pad, Speaker



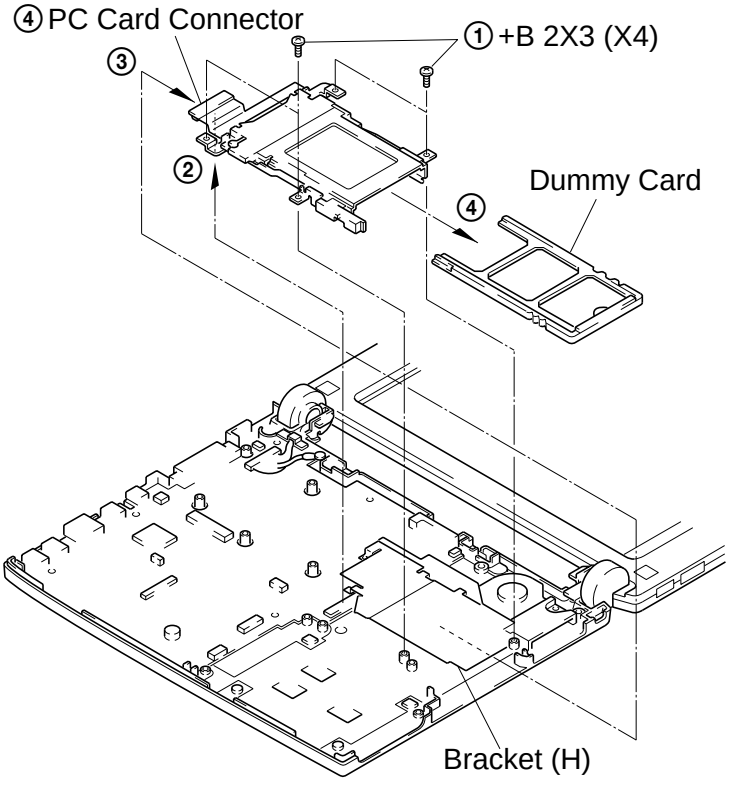
4. Modular Jack, IFX-71 Board, Vanadium-Lithium Battery, Microphone



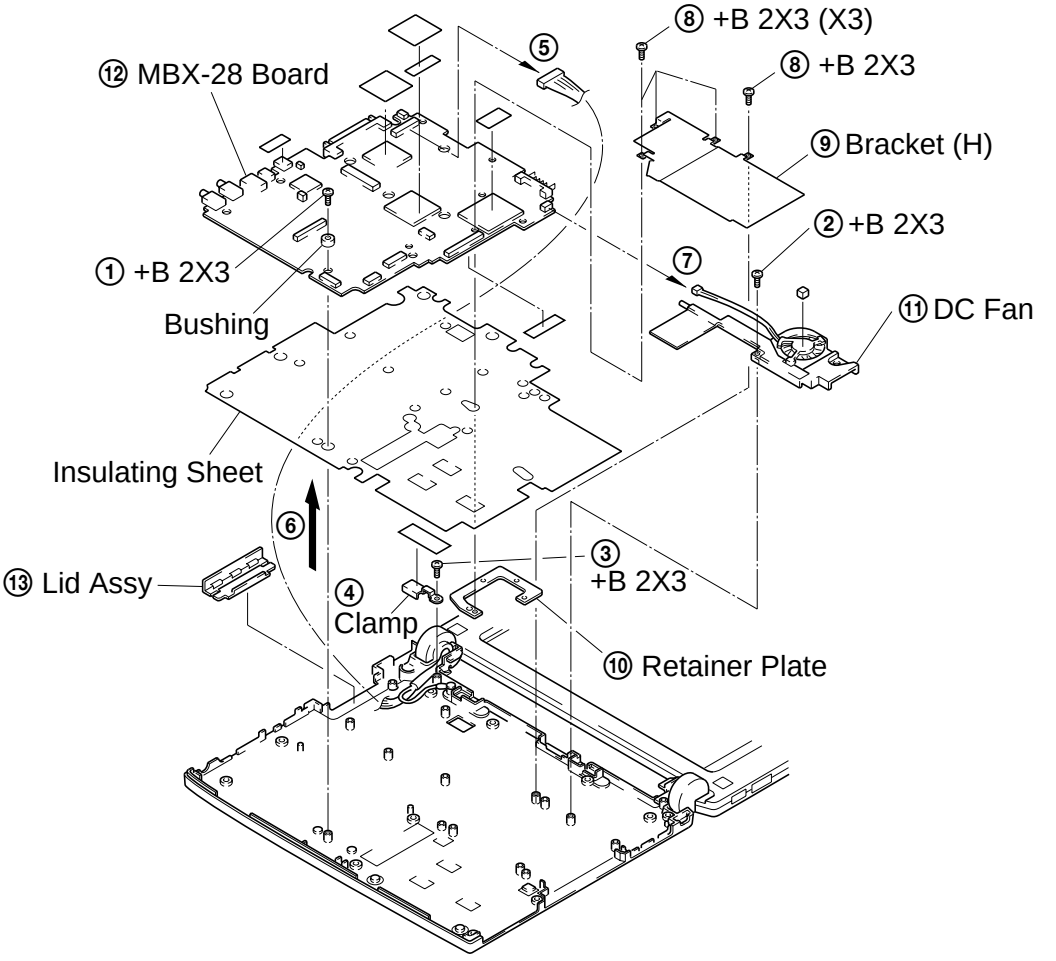
5. HDD Assy (S), SWX-36 Board



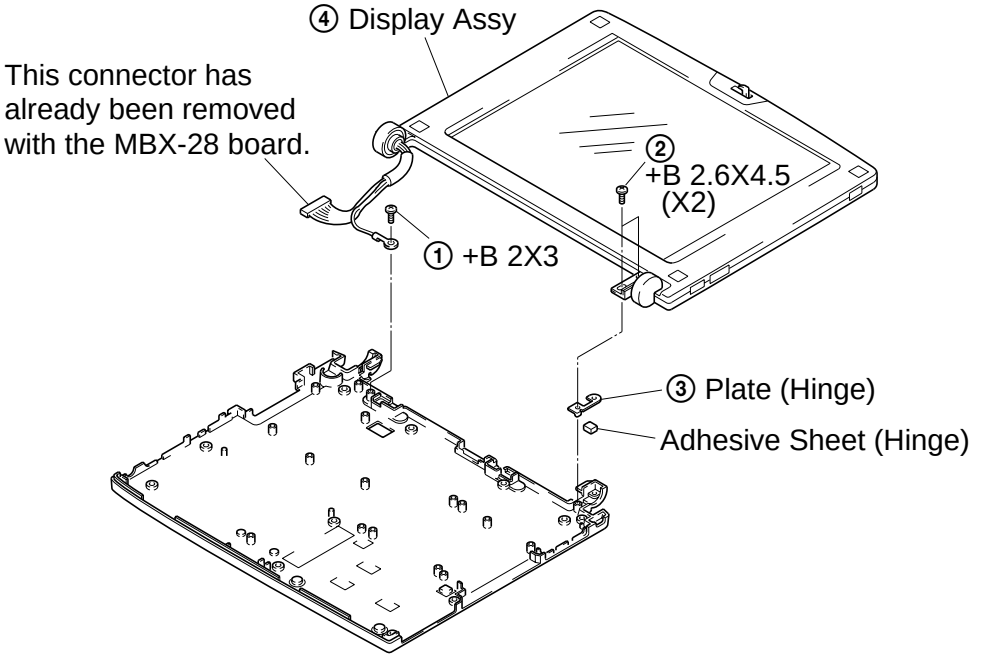
6. PC Card Connector



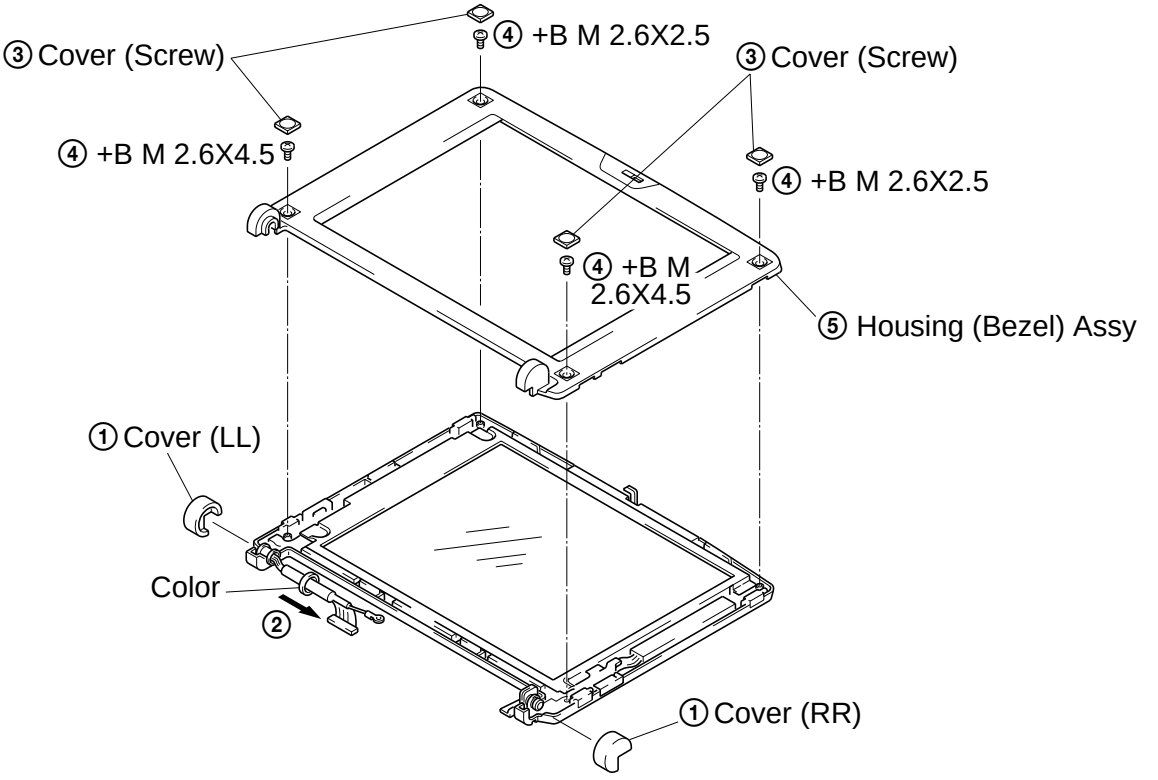
7. DC Fan, MBX-28 Board



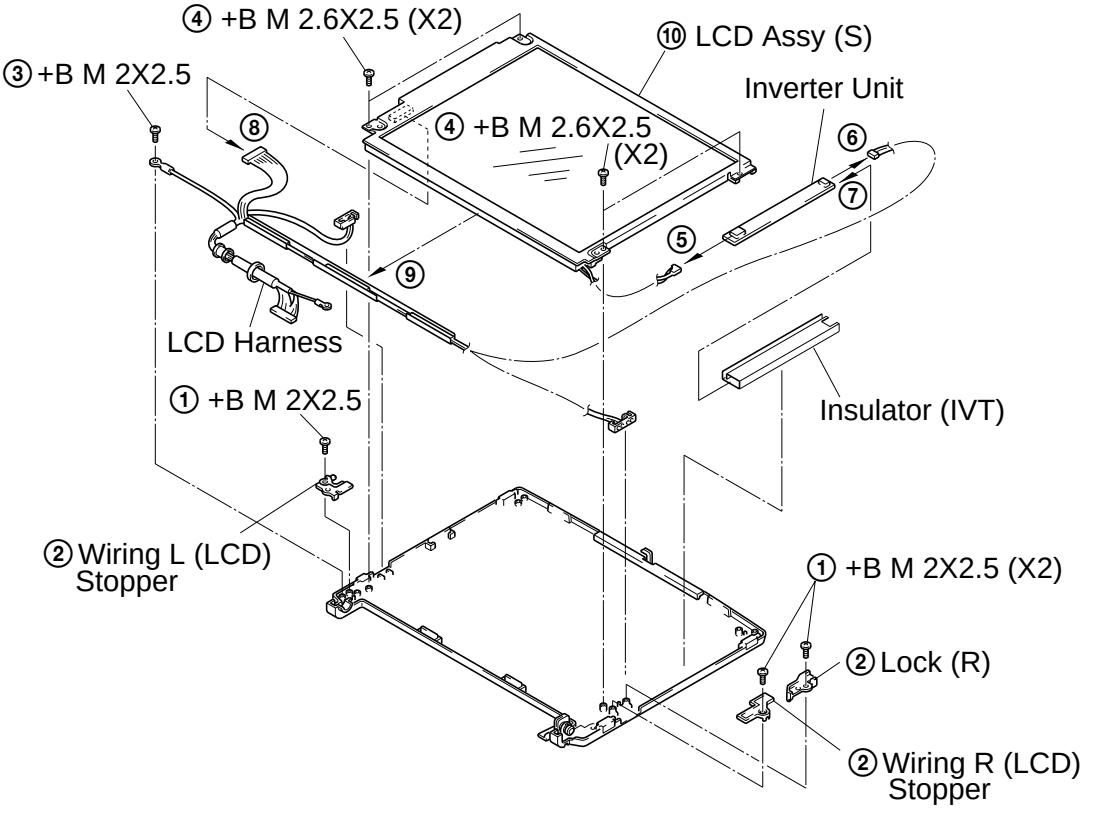
8. Display Assy


④ Display Assy
This connector has already been removed with the MBX-28 board.
② +B 2.6X4.5 (X2)
① +B 2X3
③ Plate (Hinge)
Adhesive Sheet (Hinge)

9. Housing (Bezel) Assy

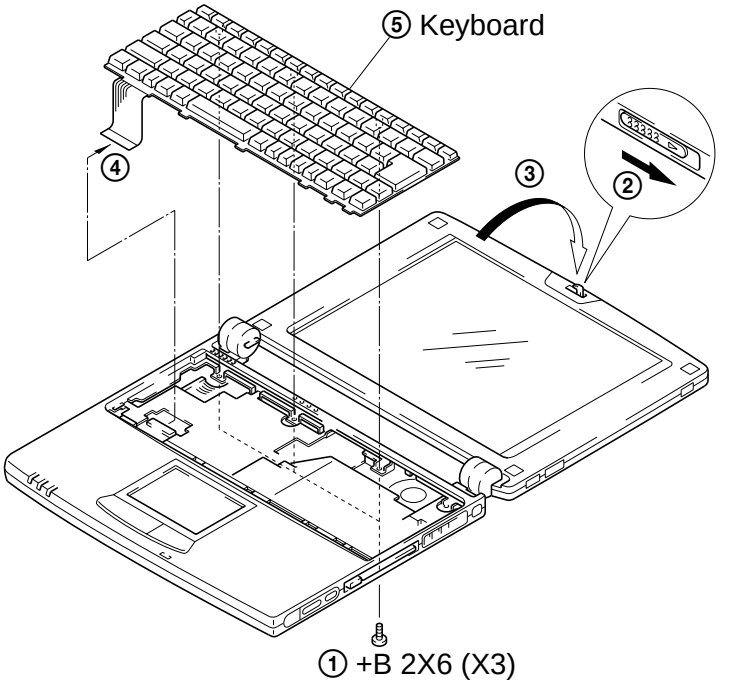


10. Inverter Unit, LCD Assy (S)

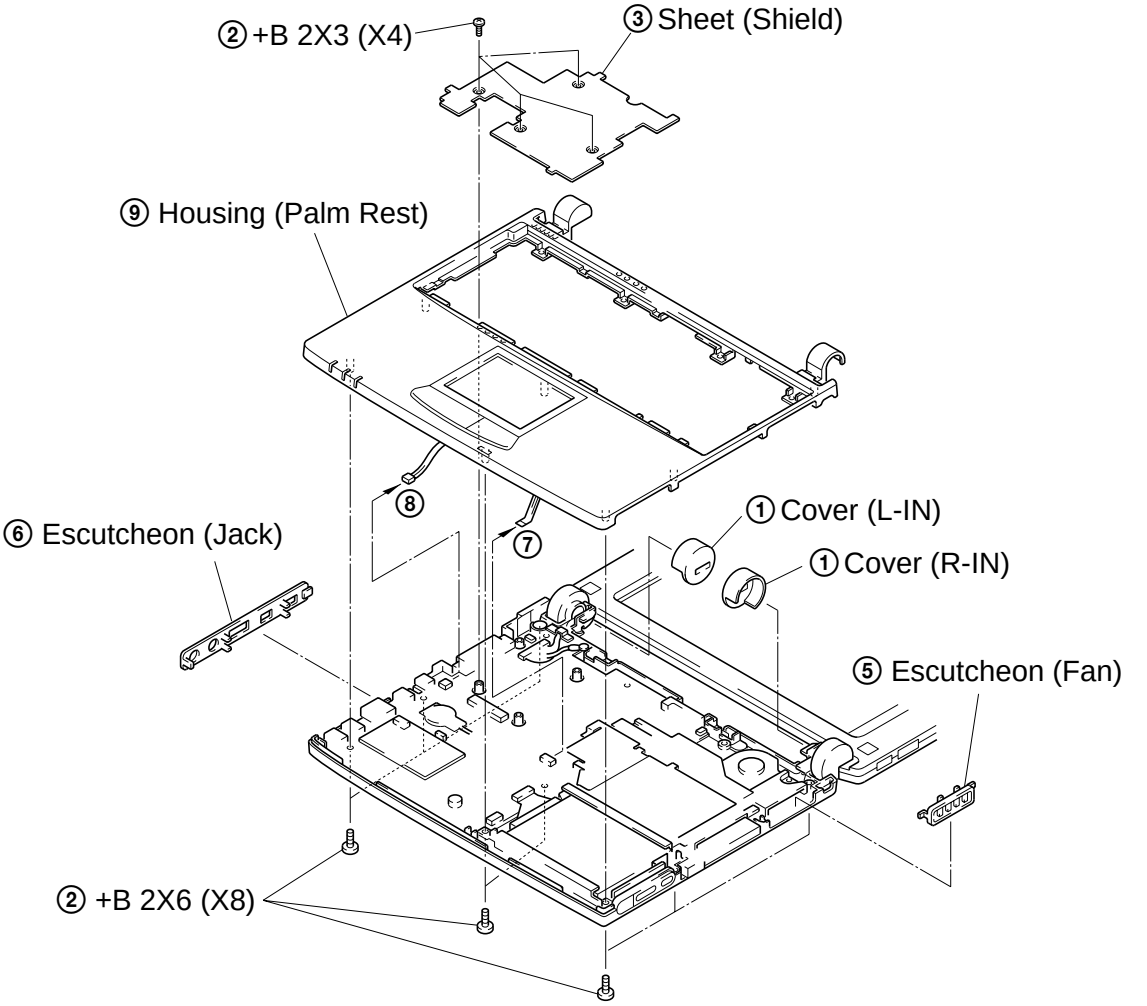


1-3. Removal

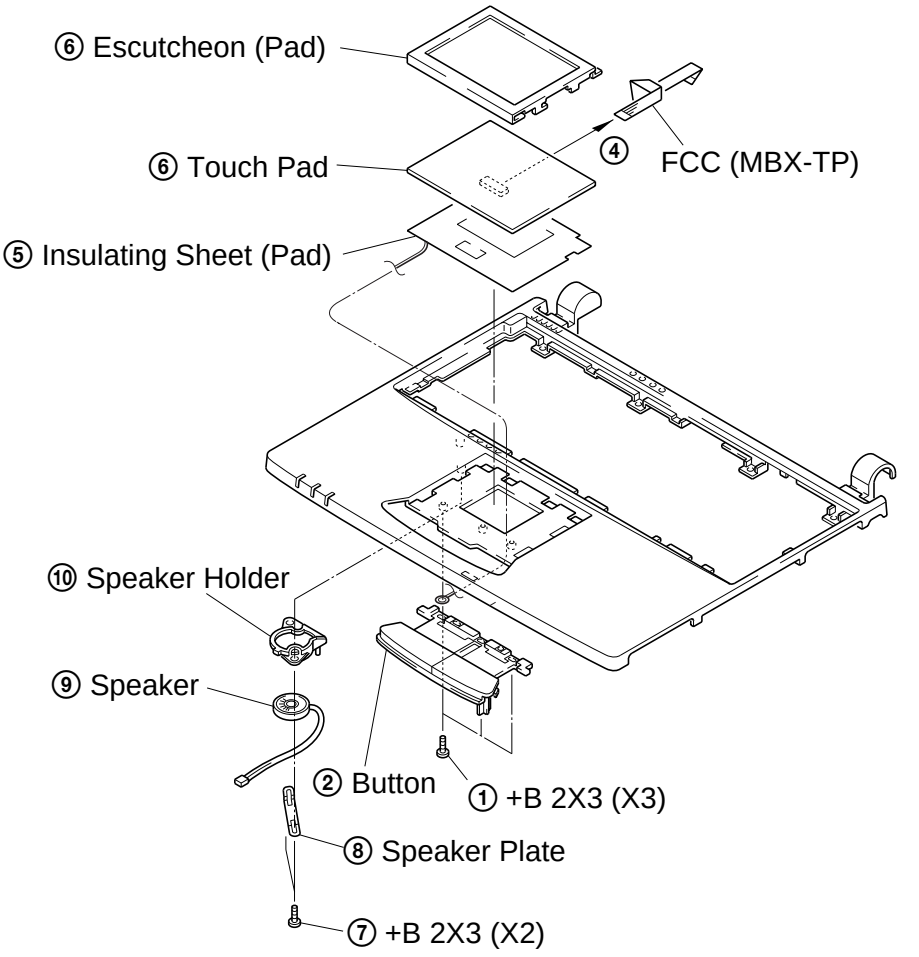
1. Keyboard



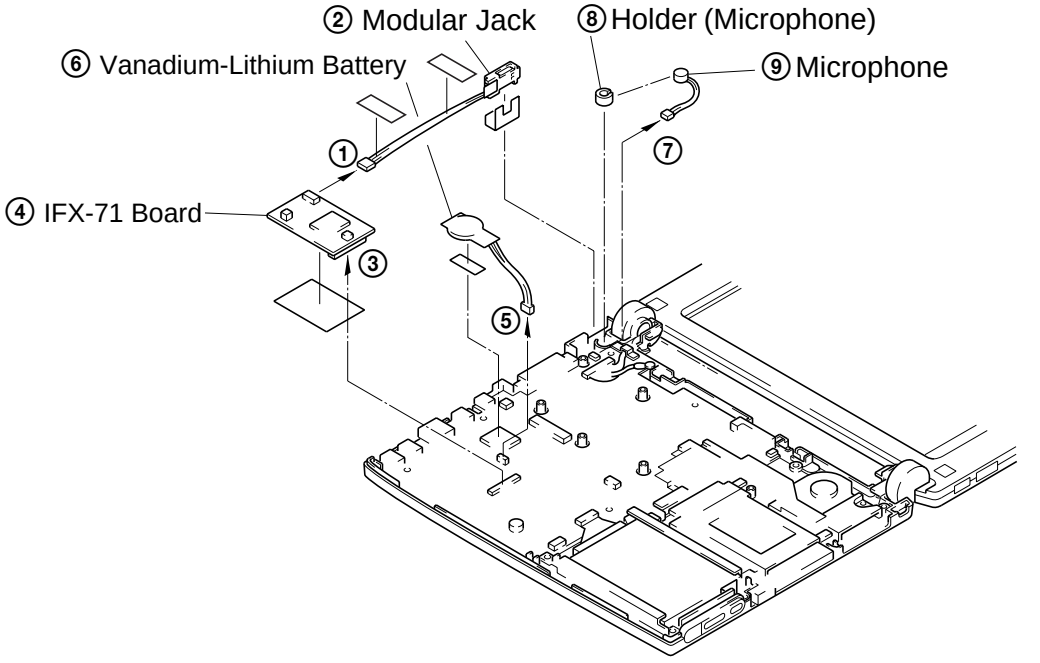
2. Housing (Palm Rest)



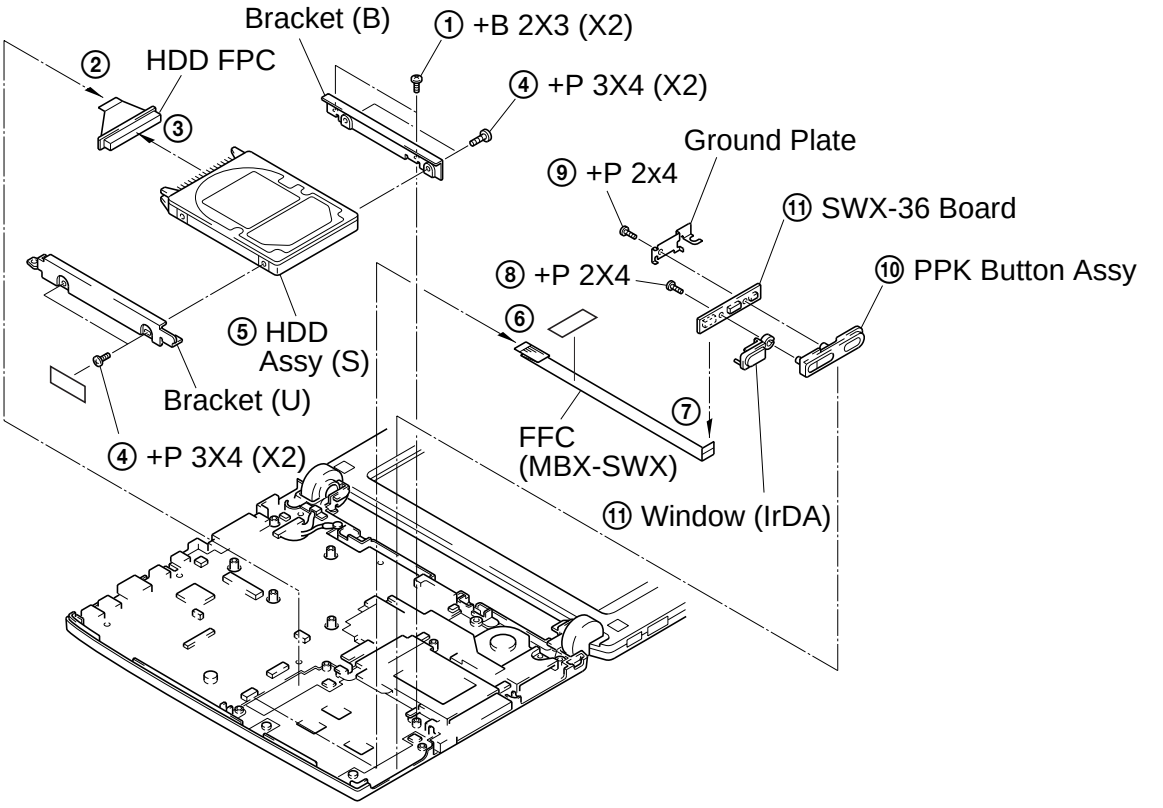
3. Touch Pad, Speaker



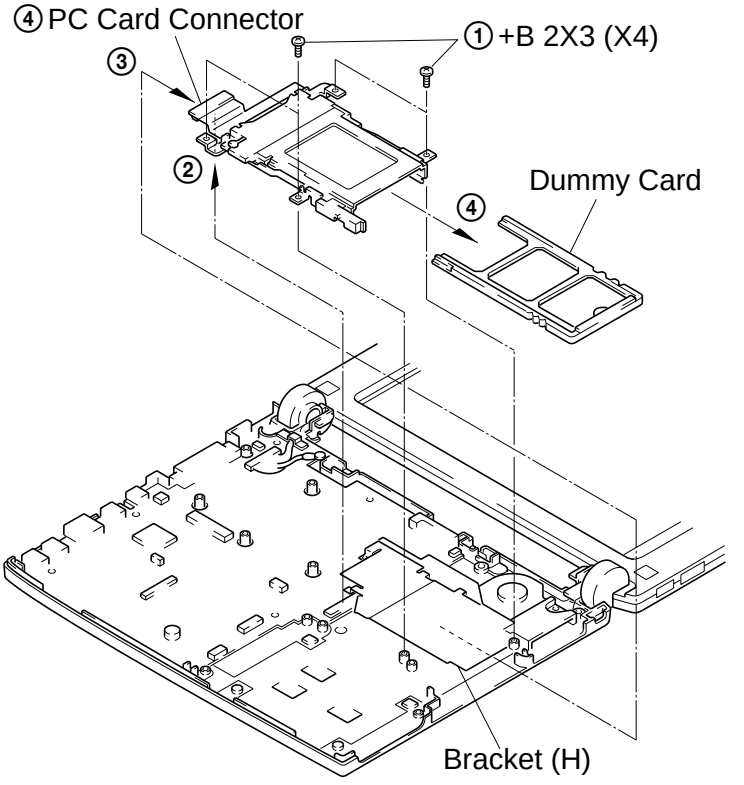
4. Modular Jack, IFX-71 Board, Vanadium-Lithium Battery, Microphone



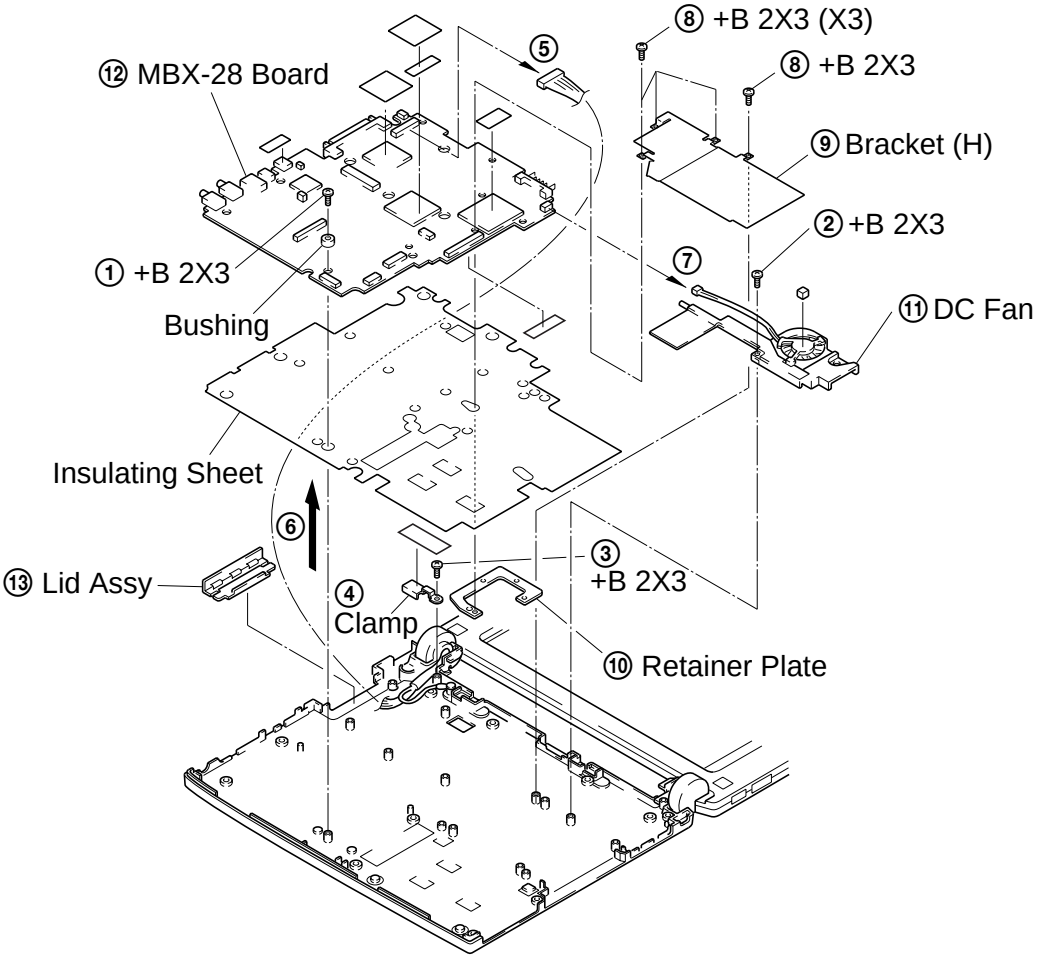
5. HDD Assy (S), SWX-36 Board



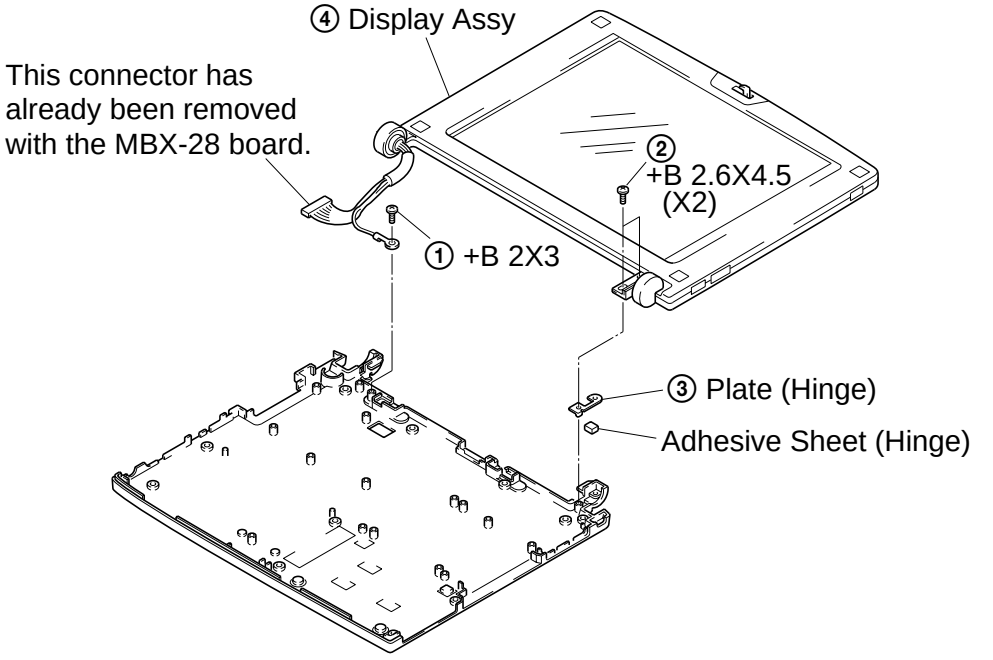
6. PC Card Connector



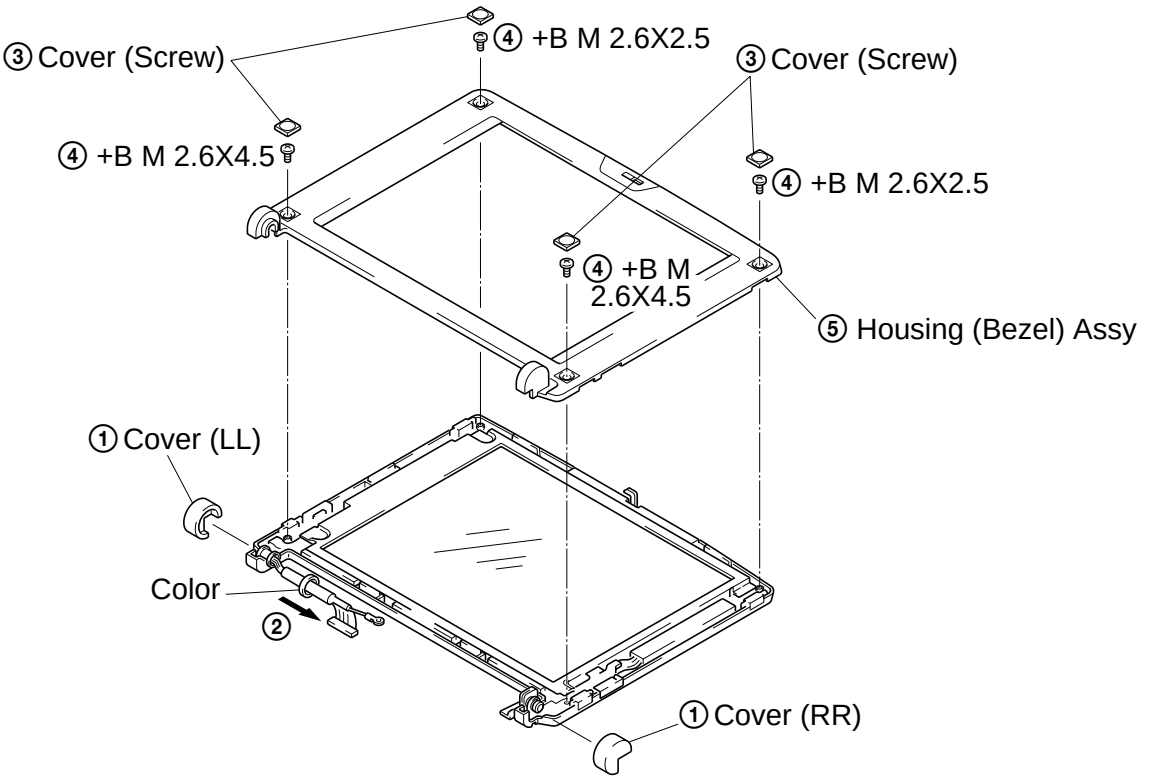
7. DC Fan, MBX-28 Board



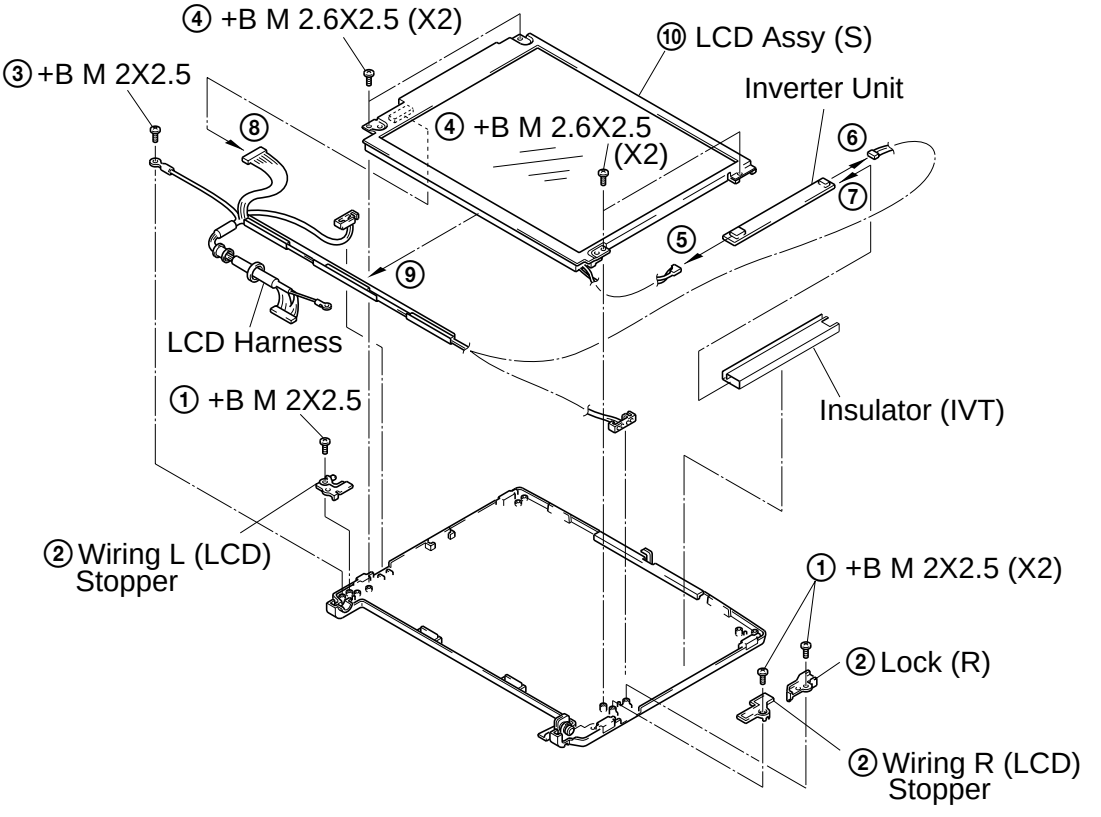
8. Display Assy



9. Housing (Bezel) Assy



10. Inverter Unit, LCD Assy (S)



CHAPTER 2.
SELF DIAGNOSTICS

2-1. Precautions

This self-diagnostic material summarizes the items to be checked and the self-tests to be performed using the main unit, FDD & CD-ROM drives, and port replicator.

2-2. Necessary Tools

- PCG-N505 series main unit
- Floppy-disk drive
- CD-ROM drive
- Battery
- AC adaptor
- CD-ROM for self-diagnostics
- Floppy disk for self-diagnostics (Installs the DOS system.)
- Port replicator
- Other tools required for the tests

2-3. Self-Diagnostics Program Start-up

Connect floppy disk drive, CD-ROM drive, battery, AC adaptor, and port replicator to the PCG-N505 series main unit. Insert a self-diagnostics floppy disk in the floppy-disk drive and a self-diagnostics CD-ROM in the CD-ROM drive.

2-4. Diagnostics Using the Self-Diagnostics Program

Insert a self-diagnostics floppy disk in the floppy-disk drive and a self-diagnostics CD-ROM in the CD-ROM drive. When the main power is turned on, the system starts up from the CD-ROM and the following screen appears.

```
Diagnostics for Service Version 1.0.
PCG-N505

(C) 1999 Sony Corporation All rights reserved.
Press any key to continue...
```

Press any key to display the start menu.

```
********** START MENU **********

1:Diagnostics for PCG-N505 (Self-diagnostics)
2:Diagnostics for PCGA-UPR5 (Self-diagnostics)
3:PASSWORD BYPASS (Password Bypass)
4:QUIT MAIN MENU (Quit)
```

Move the cursor to the desired item and press the Enter key.

• PCG-N505 Diagnostics

When Diagnostics 2 or Diagnostics 3 is selected from the start menu, the screen shown below will appear.

```
********** Diagnostics for PCG-N505 **********

1:Machine Configuration
2:Audio test Group...
3:Battery test...
          :
          :
```

Select an item to perform the self-diagnostics.

Pressing keys and/or listening to sounds may be required. Follow the instructions on the screen.

* For details about each item, refer to “Test items” on the next page.
  (Some contents may be modified.)

When the test ends normally, a message appears as follows.

```
******
 PASS
******
```

When the test ends abnormally, a message appears as follows.

```
******
 FAIL
******
```

• PASSWORD BYPASS

If the BIOS is locked with a password and you don’t know the password, use this function.

To use this function, another machine is necessary.

Select the PASSWORD BYPASS from the start menu to display the following screen.

```
Password Bypass Program 1.0
(C)1997 Sony Corporation All rights reserved.
Input last 7 digits of Serial number
(If serial xxxxxxxx-ooooooo ,input serial number → ooooooo)
Input serial number →
```

Enter the last seven digits of the serial number.

```
Bypassed pass word → zzzzzzz
```

A temporary password will appear.

- QUIT MAIN MENU
  Exit the main menu.

2-5. Test Items

- Machine Configuration
  Select the PCG-505-series main unit that you are using.
  As some test items operate based on this configuration, this selection should be performed first.

- Audio test Group
  This is an audio test.
  Operators should listen to the sounds for the diagnostics, but the detailed contents haven't been specified yet.

- Battery test
  Test for charging and discharging the battery.
  If the remaining voltage in the battery is small or the battery is overcharged an error may occur.

- Check System BIOS Revision
  BIOS Version information and other information are displayed.
  This test always ends in normal status. It's up to you to evaluate the results.

- FDD test
  Test for finding the floppy disk drive default.
  Unlock the protection tab on the floppy disk for self-diagnostics.
  If an error occurs, the floppy disk data may be erased. Back up the data before the test.

- HDD test
  Test for the hard drive.
  The recognition test is done in the start-up process with the BIOS.

- Keyboard test
  Keyboard operation test.
  A keyboard appears on the screen. Press the keys one by one.
  The test will not recognize pressing only a function key. Press the desired function key with the → key.
  If a disabled key is found, press the ESC key twice to end the test.

- IrDA test Group
  IrDA Communication test.
  The PCG-N505 series unit that will run Windows is required.

- LED test
  LEDs for the hard drive, NumLock, CapsLock, ScrlLock, Information, and Battery will light up one after another in that order.
  After checking all the LEDs, press the y key.

- Memory test Group
  Tests for items on the mother board.
  The time required for testing depends on the memory capacity.

- Modem AT Command test
  Modem test.
  AT commands, etc. are checked.
  This test does not actually make any phone calls.

- System test
  Tests items on the mother board.
  The DMA, IRQ, CPU, etc. are checked.

- Touch Pad test
  The test proceeds from moving the cursor to the square, left-clicking, right-clicking, touching four corners with a pen, and pushing the center with a finger. Follow the instructions on the screen.
  To stop the test, press the ESC key.

- USB test
  Tests the USB port.
  USB tools are required.

- Video test
  Tests LCD display.
  In the first half of the text, an operator checks that the screen is displayed within a frame and that the platte is normal.
  In the second half of the test, it checks the parts whose self-diagnostics can be performed (such as memory).

- Programmable power key test
  Press it once.

- IEEE1394 Interface test
  IEEE1394 communication test.
  The PCG-505-series unit that will run Windows is required.

- Parallel loopback test
  Test for parallel port.
  Connect a loopback tool to the parallel port of the port replicator before the test.

- PS/2 Mouse test
  External mouse test.
  Connect a mouse to the mouse connector of the port replicator before the test.

- Serial loopback test
  Serial port test.
  Connect the loopback tool to the port replicator before the test.

- Modem loopback test

  Tests data transmission and reception between modems.

  Tool modems are required.

- Aging (Short time) HDD test

  Executes a test for the memory and main system. This includes a test for the hard drive.

  The data on the hard drive is erased. The test takes about 4 hours.

- Aging (Long time) HDD test

  Repeatedly executes the test for the memory and main system. This includes a test for the hard drive.

  The hard drive data is erased. The test takes about 10 hours.

- Aging (Short time) test

  Executes a test for the memory and main system. The test takes about 15 minutes.

- Aging (Long time) test

  Repeatedly executes the test for the memory and main system. The test takes about 10 hours.

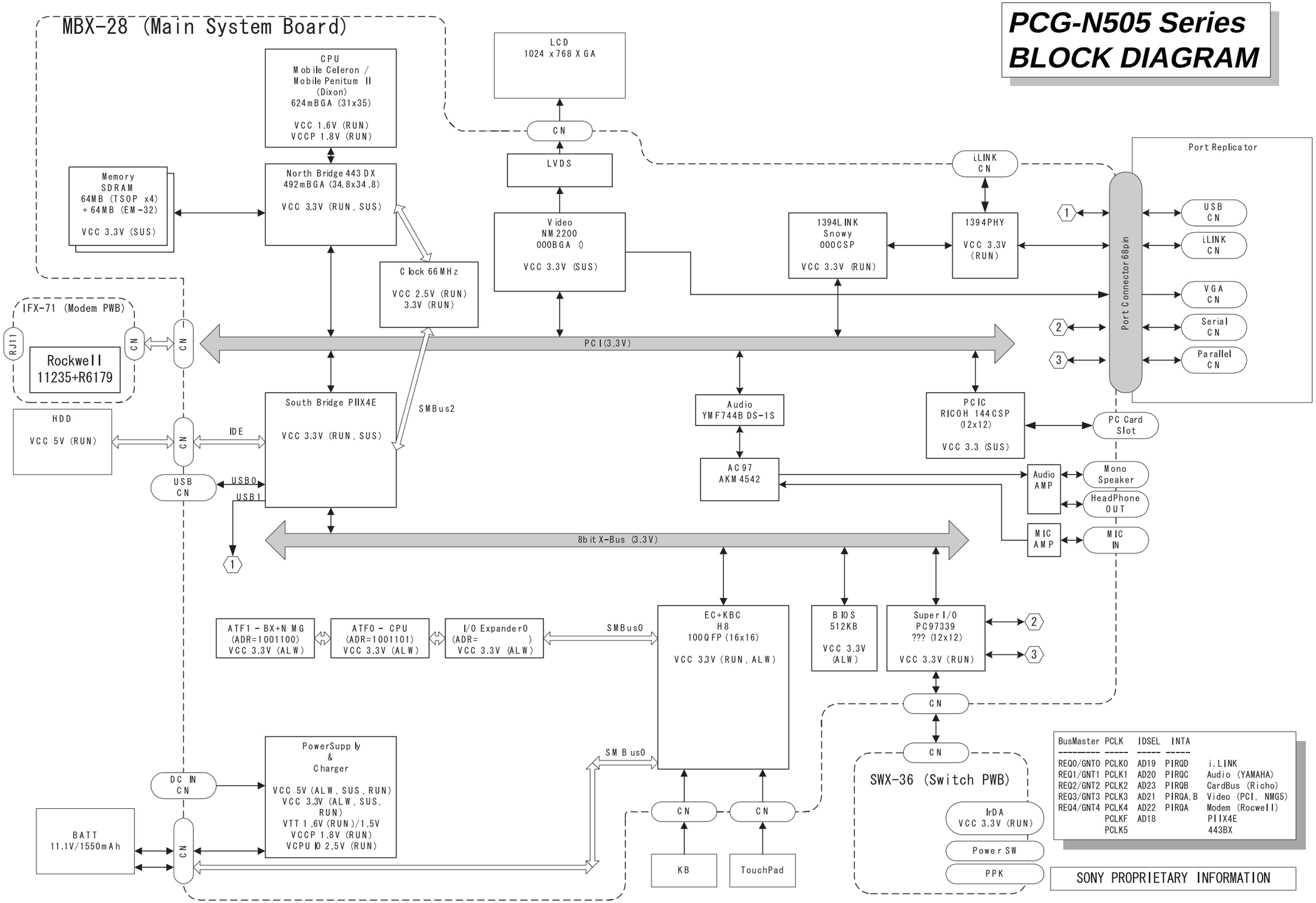
2-6. On the Other Tests that Cannot Be Supported

- PCMCIA test

  Performs the 16-bit PC-CARD test using a CD-ROM.

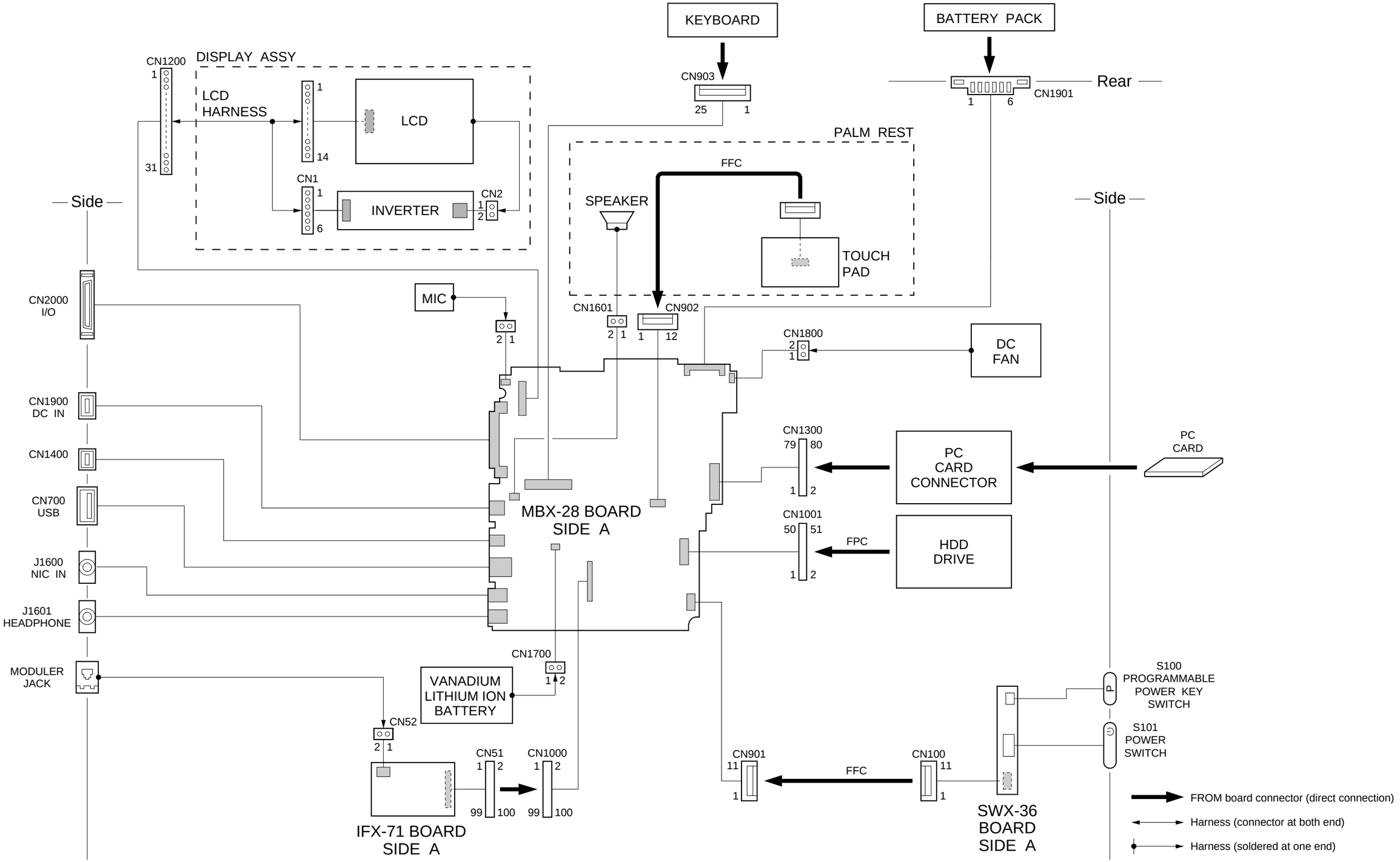
CHAPTER 3.
BLOCK DIAGRAM

PCG-N505 Series BLOCK DIAGRAM



CHAPTER 4.

FRAME HARNESS DIAGRAM



CHAPTER 5.

EXPLODED VIEWS AND PARTS LIST

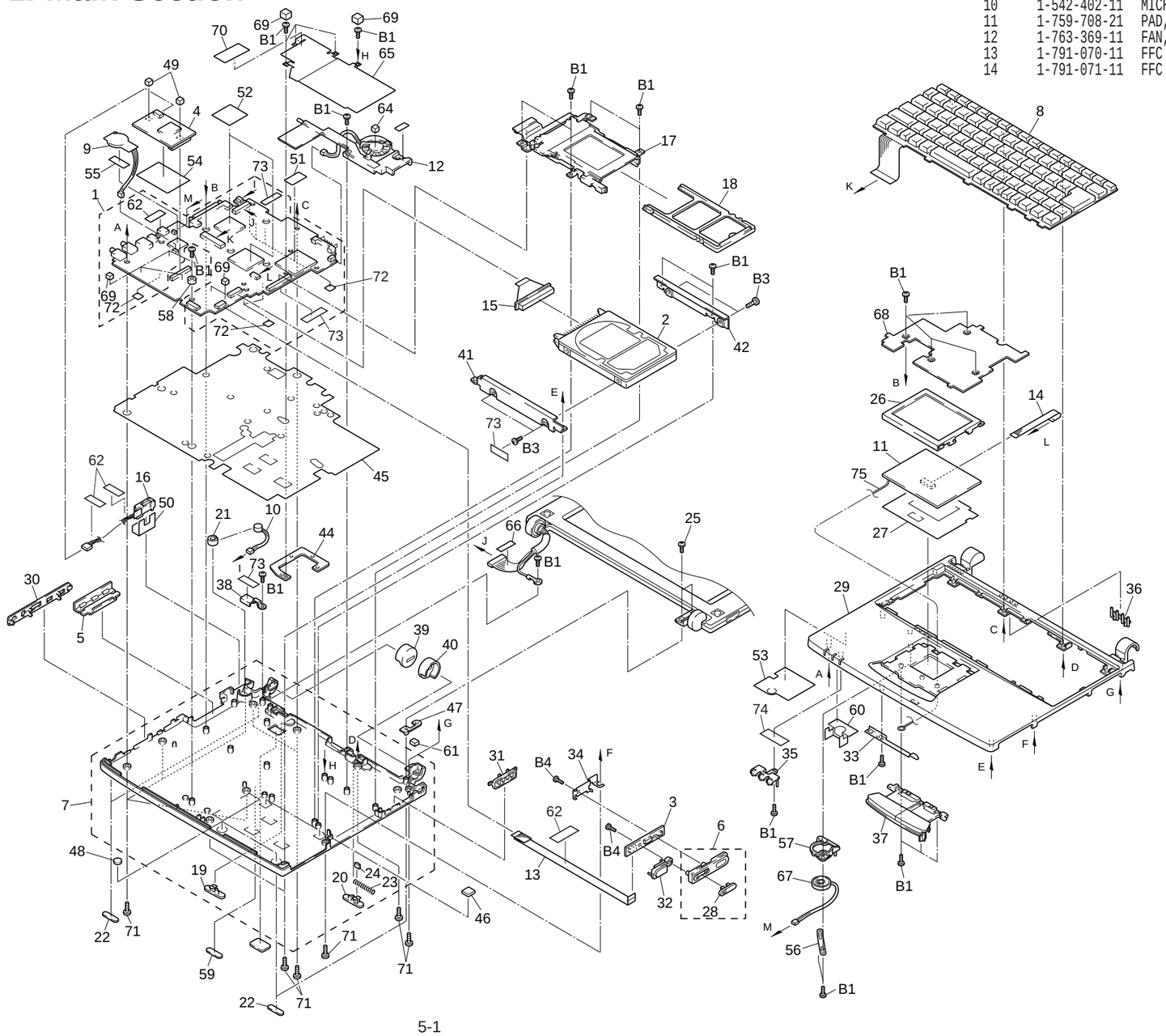
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

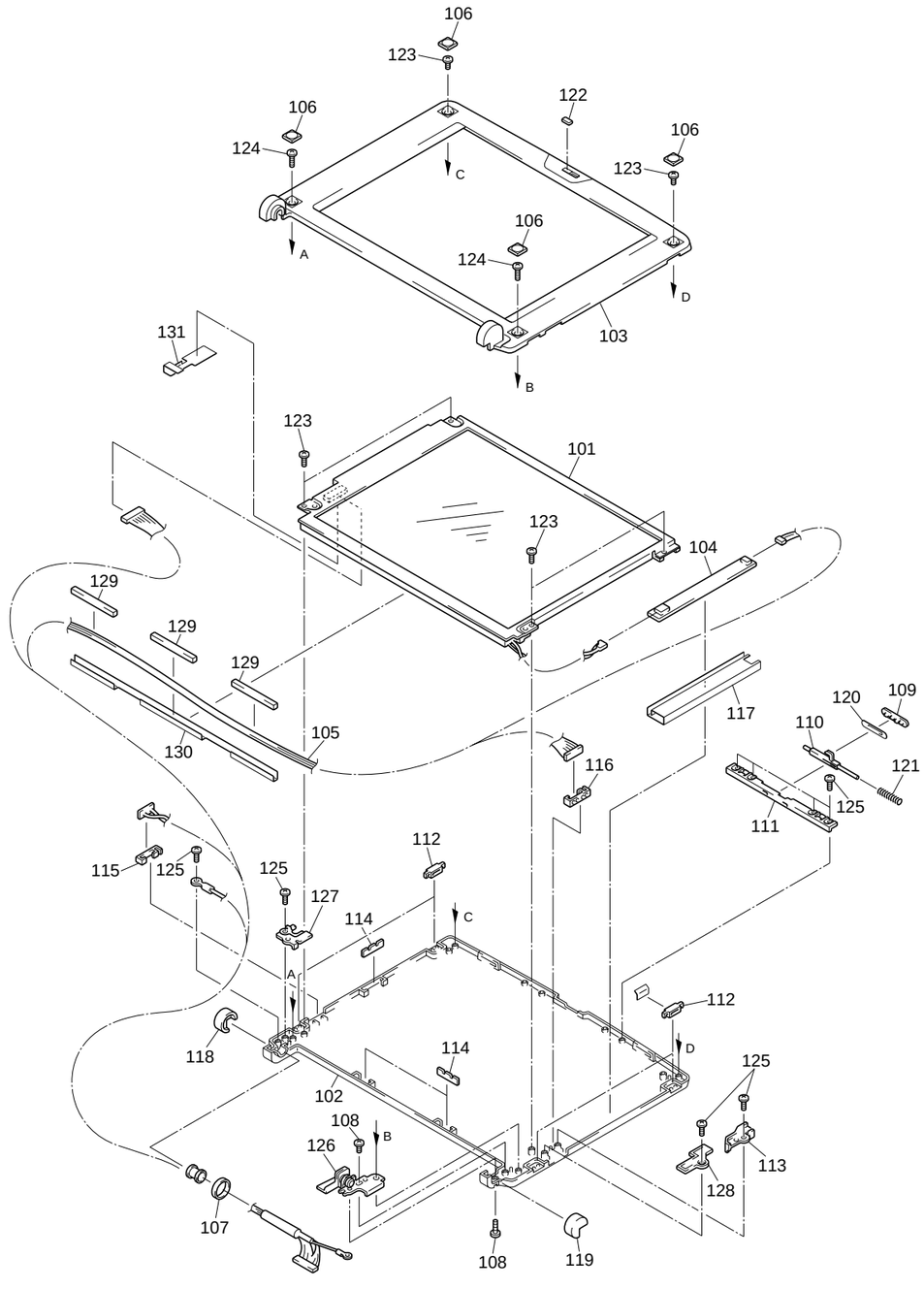
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

5-1. Main Section



Ref.No.	Part No.	Description
1	A-8046-174-A	(N505VX)...MBX-28 (P2 333/64) ASSY
1	A-8046-175-A	(N505VE)...MBX-28 (C 333/64) ASSY
2	A-8045-746-A	HDD (6G) ASSY (S)
3	A-8056-441-A	SWX-36 COMPL
4	A-8056-451-A	IFX-71 (U) COMPL
5	X-4622-236-1	LID ASSY
6	X-4622-237-1	BUTTON ASSY, PPK
7	X-4622-238-1	HOUSING (BOTTOM) ASSY
8	1-418-527-21	KEYBOARD UNIT
9	1-528-984-11	BATTERY, V/L RECHARGEABL
10	1-542-402-11	MICROPHONE, ELECTRET CONDENSER
11	1-759-708-21	PAD, TOUCH
12	1-763-369-11	FAN, DC
13	1-791-070-11	FFC (MBX-SWX)
14	1-791-071-11	FFC (MBX-TP)
15	1-791-217-11	PWB, (HDD) FLEXIBLE PRINT
16	1-793-333-11	CABLE, MODULAR JACK
17	1-793-348-11	CONNECTOR, PC CARD (EJECTOR)
18	4-643-832-11	CARD, DUMMY
19	4-635-918-03	KNOB (BL)
20	4-635-919-03	KNOB (BR)
21	4-635-923-01	HOLDER (MICROPHONE)
22	4-635-946-11	FOOT
23	4-635-956-01	SPRING (B), COMPRESSION COIL
24	4-636-934-01	SPACER (SPRING)
25	4-639-891-01	SCREW (+B M2.6X4.5)
26	4-641-434-02	ESCUTCHEON (PAD)
27	4-644-405-01	INSULATING SHEET (PAD)
28	4-642-660-02	BUTTON, POWER
29	4-642-662-01	HOUSING (PARM REST)
30	4-642-663-01	ESCUTCHEON (JACK)
31	4-642-664-01	ESCUTCHEON (FAN)
32	4-642-665-01	WINDOW (IRDA)
33	4-642-666-01	PLATE
34	4-642-667-01	PLATE, GROUND
35	4-642-668-01	LENS (POWER)
36	4-642-669-01	LENS (INDICATOR)
37	4-642-670-02	BUTTON
38	4-642-671-01	CLAMP
39	4-642-672-01	COVER (L-IN)
40	4-642-673-01	COVER (R-IN)
* 41	4-642-674-01	BRACKET (U)
* 42	4-642-675-01	BRACKET (B)
* 44	4-642-677-01	PLATE, RETAINER
45	4-642-678-01	INSULATING SHEET (BOTTOM)
46	4-642-679-01	CUSHION (HDD)
47	4-642-680-01	PLATE (HINGE)
48	4-642-699-01	INSULATOR (HDD)
49	4-642-701-01	INSULATOR (MODEM)
50	4-642-702-01	INSULATING SHEET (MODULAR)
51	4-642-703-01	SHEET (CPU), ELECTRIC HEAT
52	4-642-704-01	SHEET (NM), ELECTRIC HEAT
53	4-642-708-01	INSULATING SHEET (IFXA)
54	4-642-709-01	INSULATING SHEET (IFXB)
55	4-642-711-01	SHEET (BATTERY), ADHESIVE
* 56	4-642-727-01	PLATE, SPEAKER
* 57	4-642-728-01	HOLDER, SPEAKER
58	4-643-313-01	BUSHING (PC BOARD)
59	4-643-930-01	FOOT (CENTER)
60	4-643-931-01	PLATE (POWER), INTERCEPTION
61	4-643-939-01	SHEET (HINGE), ADHESIVE
62	4-643-940-01	SHEET (DC), PROTECTION
64	4-643-942-01	SPACER (FAN)
* 65	4-643-964-02	BRACKET (H)
66	4-644-003-01	SHEET (SHIELD)
67	1-529-477-11	SPEAKER, (2.0cm)
68	4-642-676-01	HEAT SINK
69	4-642-706-01	SHEET (SCREW)
70	4-644-425-01	CUSHION (KEY BOARD)
71	4-644-492-01	ACE (M2), LOCK
72	4-642-700-01	INSULATOR (MBX)
73	4-642-707-01	INSULATING SHEET (POWER)
74	4-644-119-01	FRONT BLIND (POWER)
75	1-791-616-11	CORD, TERMINAL
B1	7-621-772-08	SCREW +B 2X3
B3	7-682-145-01	SCREW +P 3X4
B4	7-685-102-19	SCREW +P 2X4 TYPE2 NON-SLIT

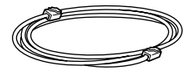
5-2. LCD Section



Ref.No.	Part No.	Description
101	A-8045-747-A	LCD ASSY (S)
102	X-4622-234-2	HOUSING (DISPLAY) ASSY
103	X-4622-235-1	HOUSING (BEZEL) ASSY
104	1-418-085-21	INVERTER UNIT
105	1-959-928-11	HARNESS, LCD
106	4-635-939-11	COVER (SCREW)
* 107	4-635-947-01	COLOR
108	4-637-072-11	+B M2X3.5
109	4-639-580-01	KNOB (LATCH)
110	4-639-581-03	LEVER (LATCH)
111	4-639-582-01	HOLDER (LATCH)
112	4-639-583-01	RETAINER (B), SNAP
113	4-639-587-01	LOCK (R)
114	4-639-588-01	LOCK (D)
115	4-639-589-02	HOLDER (B (L)), PC BOARD
116	4-639-590-02	HOLDER (B (R)), PC BOARD
117	4-639-593-04	INSULATOR (IVT)
118	4-639-605-01	COVER (LL)
119	4-639-606-02	COVER (RR)
120	4-639-622-01	SPACER (LATCH)
121	4-639-623-01	SPRING (LATCH), COIL
122	4-639-778-02	CUSHION (LATCH)
123	4-639-890-01	SCREW (+B M2.6X2.5)
124	4-639-891-01	SCREW (+B M2.6X4.5)
125	4-639-892-01	SCREW (+B M2X2.5)
126	4-642-651-01	TILT UNIT
127	4-642-653-01	STOPPER, WIRING L (LCD)
128	4-642-654-01	STOPPER, WIRING R (LCD)
129	4-642-919-01	CUSHION
* 130	4-642-652-01	SPACER, U
131	4-642-920-01	CLAMP CN (LCD)

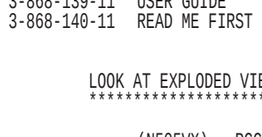
Ref.No.	Part No.	Description
		ACCESSORIES
		**********
* 301	1-777-926-31	CORD, CONNECTION
⚠	1-782-614-31	CORD, POWER
302	A-8046-288-A	FDD ASSY (S)
	3-868-139-11	USER GUIDE
	3-868-140-11	READ ME FIRST
		LOOK AT EXPLODED VIEWS
		**********
303		(N505VX)...PCGA-UPR5

301
Connection cord



302
FDD

303
Port Replicator (PCGA-UPR5)



- The Port Replicator itself does not have the Part No. Refer to the Exploded Views of PCGA-UPR5 Service manual (9-872-020-11).

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.